September 1959 75¢

DUN'S REVIEW and Modern Industry

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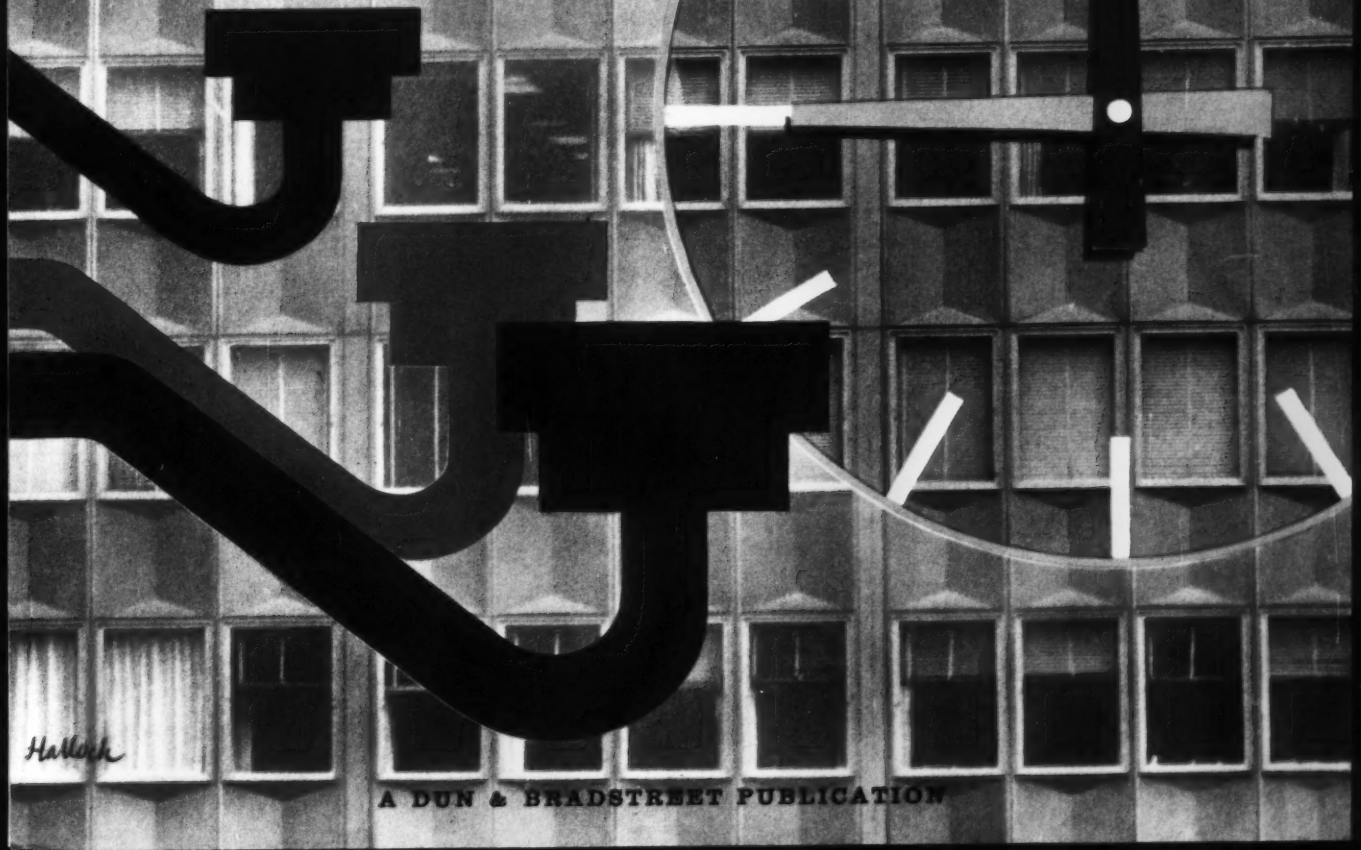

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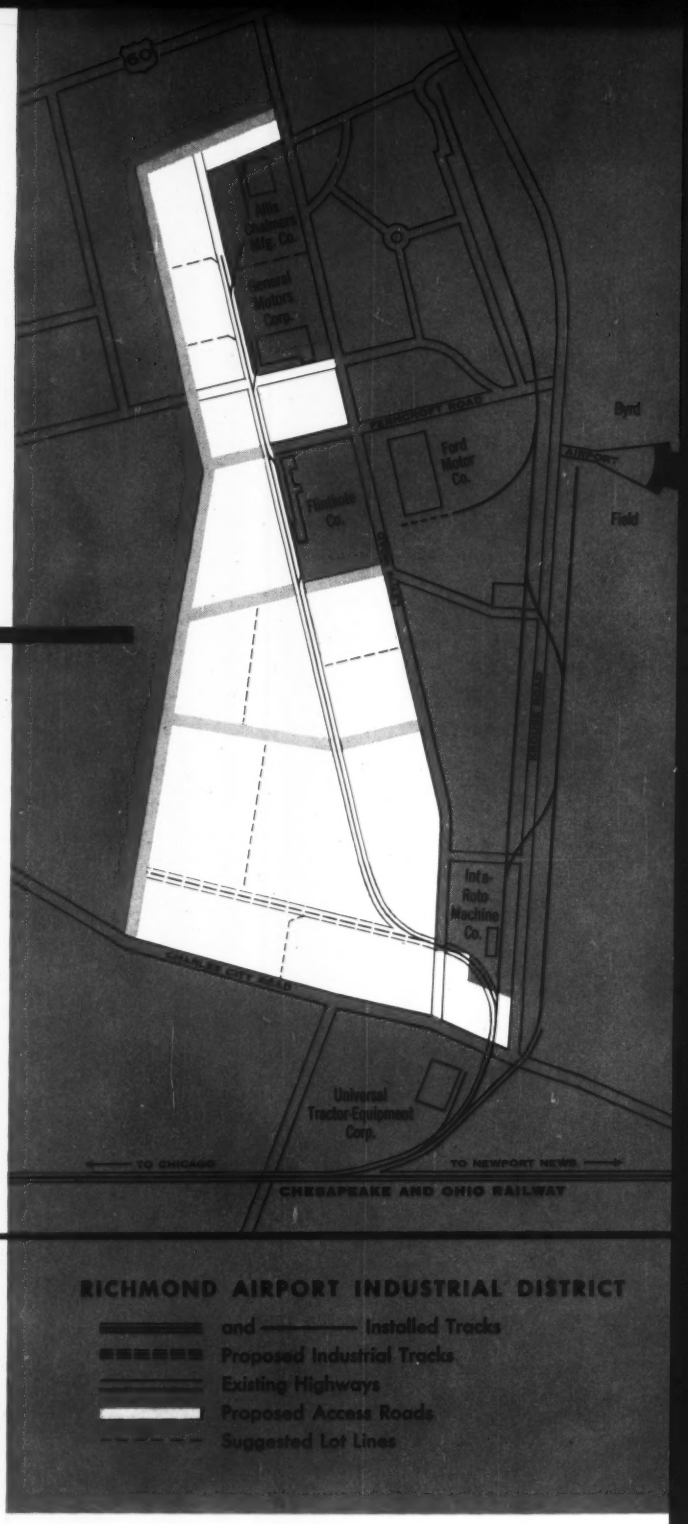
from this convenient location in Virginia



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DUN'S REVIEW
and Modern Industry

VOLUME 74 NUMBER 3

September 1959

3 *Editorial*

5 *The Trend of Business*

11 *Business Men's Expectations*

13 *Business Failures*

19 *Washington Business Front*

23 *Voice of Industry*

42 *Today's Sales Challenge: Top Management Speaks Out* KENNETH HENRY

45 *The Anatomy of a Strike* JAMES MENZIES BLACK

48 *Need Marketing Advice? Ask Your Dealer* AARON STERNFIELD

A SPECIAL REPORT TO MANAGEMENT

50 *Profitable New Look in Joint Ventures* MELVIN MANDELL

53 *Today's Office—Tomorrow's Opportunity*

139 *International Markets* ALEXANDER O. STANLEY

147 *Managing Your Manpower* LAWRENCE STESSIN

151 *Executive Bookshelf*

153 *Capital Views & Previews* PAUL WOOTON

157 *Inside Industry*

162 *Sales & Distribution*

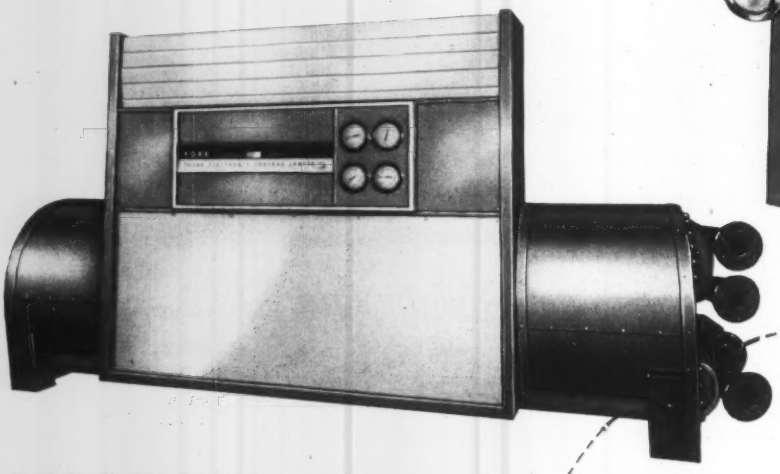
167 *Ideas at Work*

170 *New Product Parade*

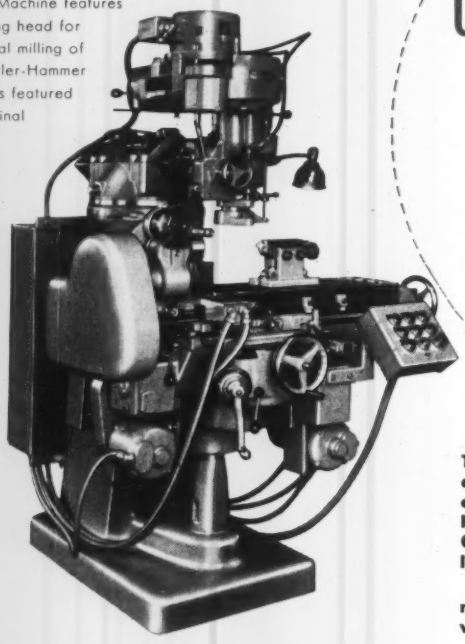
174 *The Reviewing Stand*

The Reid Brothers Company, Inc. installs Cutler-Hammer Motor Control on their Reid-O-Matic Model 824 Surface Grinding Machine. Fully automatic grinding controls cut set-up time, improve production efficiency.

The York Corporation, subsidiary of Borg-Warner Corp. provides Cutler-Hammer Control on the Turbopak Centrifugal Water Chilling System. The completely integrated Turbopak system simplifies installation, maintenance, and operation.



The Index Machine Company's Vertical Milling Machine features a geared dividing head for automatic vertical milling of spiral forms. Cutler-Hammer Motor Control is featured as standard original equipment.



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EDITORIAL

"A Common Language"

WHEN WE SAY of a man, "He doesn't speak our language," what do we mean? This familiar phrase, heard so often in business discussions, has many shades of meaning. Often, it implies that lack of understanding is a problem more of ethics than of facts, more of definition than of communication.

Precise meaning is just as important in business as in diplomacy, both of which are often afflicted with the vagueness of doubletalk. Since we use words to communicate, is there any reason why we can't find an accurate and acceptable vocabulary for the exchange of ideas, opinions, and values?

Perhaps the nub of the problem is the "will to be understood." Where this mutual desire exists, doubts can be resolved in candor without resort to hedging or gobbledegook. Where it is lacking, communication falters. No words have ever been devised that will make men honest if their motives are not. Contracts between management and labor, between vendor and supplier depend on mutual acceptance and good faith. Written words may clarify the obligation, but they can never enforce it unless promise and performance are welded by sincerity of intent.

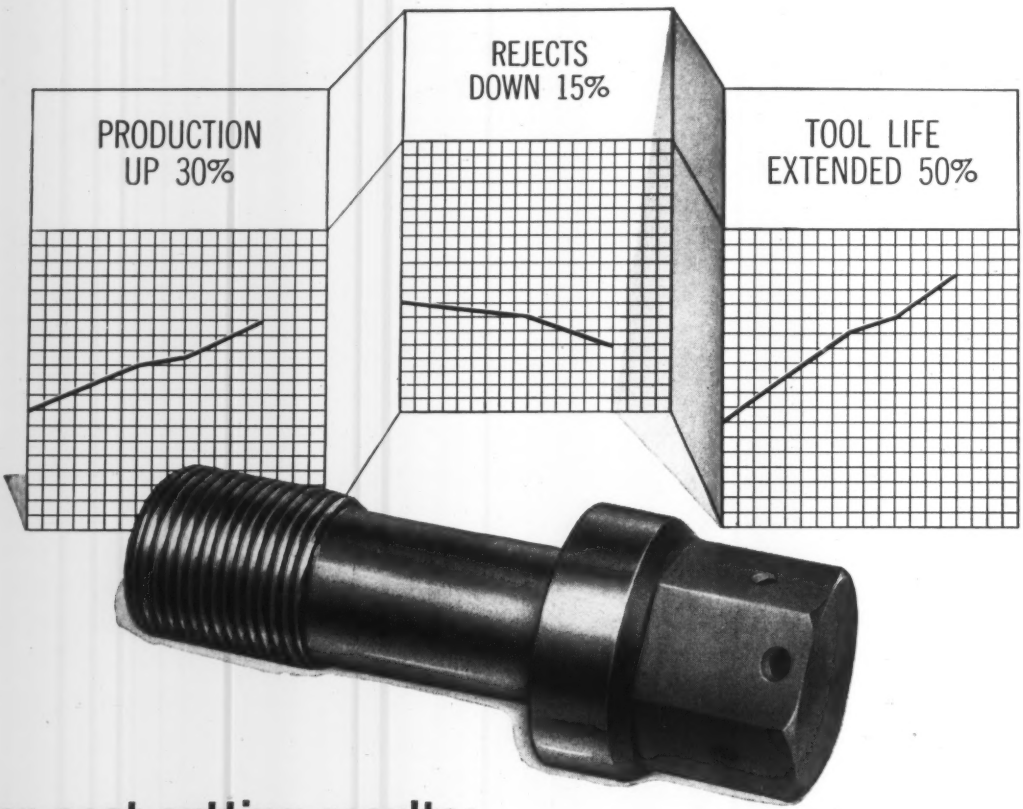
Mankind has long recognized the need of a common language. Leaders in diplomacy, religion, and trade have sought a synthetic tongue to serve their needs and avoid the verbal barriers to understanding. Esperanto is reputed to have a million fluent speakers and enjoys some commercial use. It had considerable backing among the delegates to the defunct League of Nations, an organization which failed because of the international lack of the "will to be understood." The same problem faces the United Nations today.

Trade is occasionally more successful than diplomacy in finding a common ground for agreement. Twenty-nine million people in Central Africa speak Swahili, a vagrant tongue of mixed Bantu and Arabic origin that aids the business intercourse of fifteen countries from Ghana to Ethiopia. Cantonese is a mongrel Chinese tongue, borrowing freely from Portuguese and English to serve the coastal trade of China. Pidgin English, an amazing species of basic English that is devoid of grammar but embellished by inflection and gesture, is a recognized and well-used instrument of commercial bartering in the harbors and bazaars of the Indies.

A common language, then, is not so important as a common need for fair exchange in faith as well as in goods or money. Any man can speak "the other fellow's language" if he means what he says and backs up his words with action. Whether in business conversation, advertising, or warranties, words have to be taken at face value, because they determine the image by which the individual or the corporation is measured and judged. The man who is as good as his word speaks every man's language, because his will to be understood is apparent in every sentence he utters and every promise he makes.

Value analysis boosts production 30%

This was the outstanding result when a metalworking company studied and evaluated production of piston pin bolt heads with a Ryerson representative. The Ryerson specialist recommended Rycut® 40—the world's fastest machining alloy steel in its carbon range.



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The Trend of BUSINESS

Sales	*Consumer spending will play a bigger role in expansion.*
Housing	*New starts will level off before the end of the year.*
Expectations	*Fourth-quarter sales prospects are bright (page 11).*
Failures	*Number of failures falls to 10-month low (page 13).*

DESPITE the haze cast over the business picture in late summer by the steel strike, over-all economic activity continued to show signs of strength. Prospects for the final months of 1959 are bright. Although the strike has affected the rate of increase, expansion will take on more vigor following a settlement. Gains will not be so noticeable as during the recent period of recovery, but this has been the case with most periods of growth.

Capital spending and consumer buying will be the principal forces behind the gains scored.

In contrast, increased activity will have less support, proportionately, from inventory accumulation and Federal Government spending that it did during the first half of the year. Moreover, housing starts are likely to level off before the year-end.

Increased spending for new plants and equipment will help industry hit its June peak by year-end.

Although production gains will mean further records in the number of employed, any sharp decline in unemployment will be restrained by additions to the labor force and efforts by manufacturers to step up output per manhour.

With more people at work, total personal income will continue to push to new high ground. This will mean more records for consumer spending, but business will be cautious in adding to its inventories, despite low levels of stocks in relation to sales.

High sales and low stocks will contribute greatly to a resumption of price increases late in the year.

The Federal Reserve Board's index of industrial production—a measure of the output of the nation's mines, mills, and factories—will show only a moderate gain in September following settlement of the steel strike. It will gain momentum in October and November and, by December, will match the record set last June.

The autumn rise in industrial output will result from increased activity in steel and related industries.

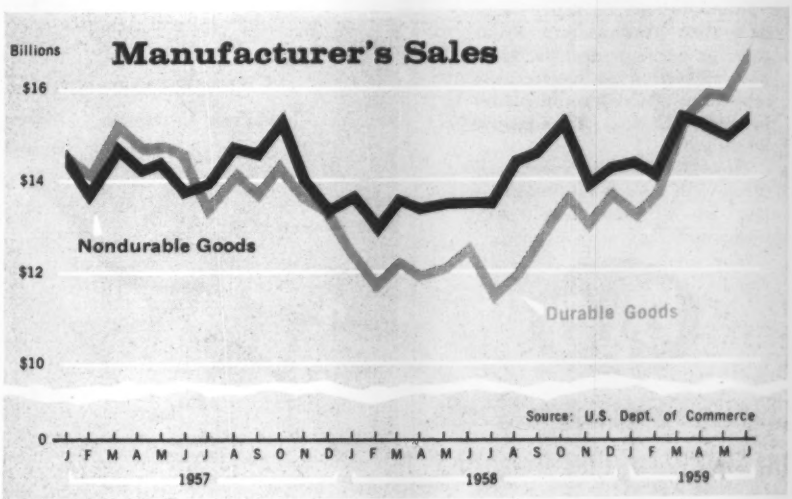
The Federal Reserve Board announced that it is making a basic revision in the index that will put the seasonally adjusted annual rate 10 points higher than the 155 (1947–49 = 100) previously reported for June. Although part of the change results from the inclusion of some fuel and energy production not previously represented in the index, most of the revision is due to the fact that the growth rate in the industries comprising the index has been appreciably greater than previously reported.

At the onset of the steel strike, warehouse inventories were at record levels, and stocks in the hands of most users were thought to be sufficient to tide them over for about two months. However, by mid-August, warehouse stocks were noticeably reduced, and those mills still operating because of labor contract extensions were flooded with orders. This has led many steel men to believe that when a settlement is reached there will be an upsurge in new orders.

Although it will take at least two weeks to boost production to pre-strike levels, output for the fourth quarter will average between 90 and 95 per cent of rated capacity.

Activity in some other industries dependent on steel has been somewhat curtailed.

This curtailment has been most noticeable in coal mining, railroads,



TOTAL SALES OF MANUFACTURERS *reached record levels in early summer, with gains in durables more noticeable than in nondurables. Source: U.S. Department of Commerce.*

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trucking, and, in some areas, construction.

Automotive producers, with ample steel supplies on hand, have been affected little by the strike. Output in July, although down slightly from June, was the highest for any July since 1955. And although sales in July trailed forecasts a bit, dealer inventories were built up to record levels. The industry expected these stocks to be reduced by continued high sales through August and September when production would be cut by shutdowns for the model changeover process.

Auto producers are banking on the introduction of the new compact models to make 1959 a 5.5 million to 6 million-car year and to make 1960 even better than that. Pre-changeover levels of output will be restored in October and sustained through the end of the year, if sales go as expected.

As production moves up in the fall months, more and more industries will report employment levels matching their pre-recession levels.

At this writing, the effects of the steel strike on employment and unemployment are unknown, but striking workers will not be considered unemployed unless they actively seek other work. Therefore, much of the idleness in the steel industry won't show in the upcoming unemployment reports.

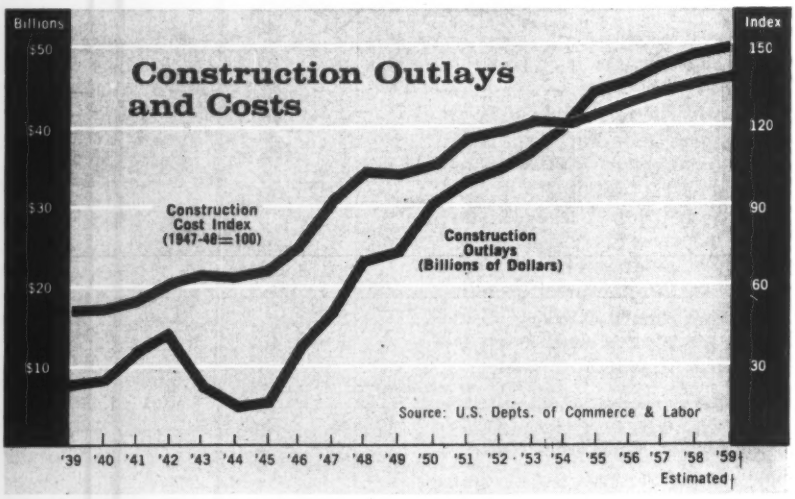
Despite more records in the number of jobholders, unemployment as a percentage of the labor force will hover around 5 per cent. Although this will be well below the recession high of 7.6 per cent that occurred in August 1958, it is still above the 4 per cent level that prevailed during the 1955–57 expansion.

Not only will more people be at work, but wage levels and hours worked will continue to show substantial gains. This will give people more money to spend and save. Although savings rates will advance slightly over year-earlier levels, consumer spending will show more noticeable gains.

Thus far this year, retail trade has run 5–9 per cent over a year ago, and similar gains are likely for the fourth quarter.

August and September may not show such sizable gains in retail sales because of the effects of the steel strike in certain areas, especially in the buying of big-ticket durable goods and passenger cars. However, in the country as a whole, year-to-year gains in appliances, furniture, automobiles, and other durables will outpace those in apparel, food, linens, and draperies and will help make 1959 a banner year.

Reflecting increased confidence in business conditions, more and more consumers have been buying on time. Recent month-to-month increases in installment debt have been the greatest since 1955, and consumer installment credit outstanding in early summer was at a record level. Although credit terms are likely to become a little more difficult, installment debt will continue to move up through the rest of the year and into early 1960. After that, repayments will rise no-



A GOOD PART *of the rise in the total dollar value of construction outlays in recent years has been due to increased prices for building materials and higher labor costs.*

One of the production areas in the PIONEER plant. In a recent survey, piece workers attributed increased weekly earnings to less tension and fatigue.

BOTH office and plant personnel at PIONEER expressed enthusiasm for the continuous "lift" provided throughout the working day by Music by MUZAK.

"Our own time studies prove that

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—also improved employee morale and decreased labor turnover,"

says Ralph J. Roberts, President of PIONEER INDUSTRIES, Inc., Darby, Pa.

IF YOU ARE a business executive responsible for the output and morale of many employees, you will not be surprised to learn that an estimated $3 *billion* is lost to U.S. industry each year in unproductive wages. The monotonous nature of many factory and office jobs understandably causes boredom. Boredom leads to fatigue, nervous tension, poor concentration, production slowdowns, costly errors, friction, absenteeism. What can management do about this problem? What can *you* do?

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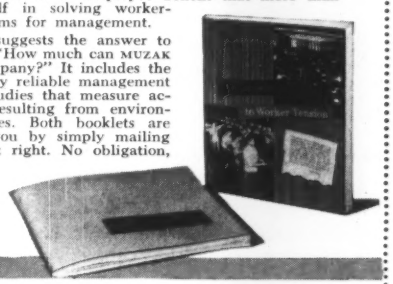

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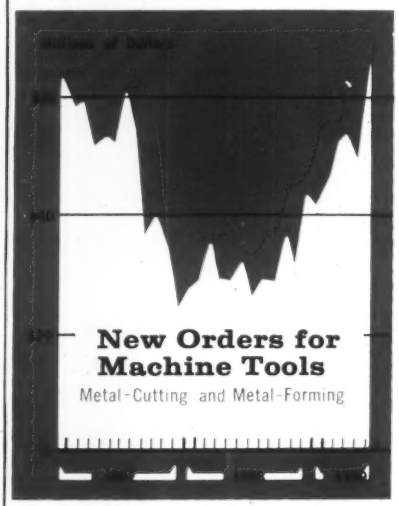
ticeably, interrupting the rise in installment credit outstanding. The extent of the increase later this year will depend largely on consumer reaction to the 1960-model autos.

Wholesalers generally faced a good fall, although sales of some lines in mid- and late summer did not live up to expectations.

Substantial increases in wholesale sales were noted particularly in appliances, furniture, and most other household goods. Volume in apparel remained moderately over last year.



FURTHER GAINS *in new orders are likely as capital spending moves up. Source: National Machine Tool Builders' Assn.*

Shoe output is expected to hit a record this year and climb even higher in 1960.

Orders for textiles rose sharply in recent weeks, and it is believed that the overcapacity that has existed in the industry since about 1951 has come to an end. This has been due to increased trading in industrial fabrics, man-made fibers, and woolens.

As retailers and wholesalers step up their buying, manufacturers' sales will edge higher in the coming months.

In manufacturers' sales, as in retailing and wholesaling, gains over last year in durables will be greater than in nondurables.

Business men at all levels will keep a watchful eye on their inventories, and the rate of increase is unlikely to match that of the first half of the year. But relatively low stock-sales ratios will prevent any marked decline in the rate of accumulation. Over-all busi-

Can You Call a Man a "Failure" at Thirty?

Men who think that success is only a matter of "a few years" are failures . . . however young they are!

How often have you heard some young man in business say, "I'll admit the job I have now isn't much but, after all, I'm only in my twenties."

Or: "Just about every executive in the company I work for is between 45 and 65. I have plenty of time to get ahead."

This *mistaken* idea that success comes automatically with time is easy to understand. Promotions do come regularly and effortlessly to young men of promise. *But* the day arrives, often abruptly, when that promise must be *fulfilled*. Native ability and intelligence can carry a man only to the mid-way point in business—beyond that he must *prove* his capacity to justify a position of executive responsibility. That calls for a practical, working knowledge of business fundamentals.

The time to build that knowledge—to lay a solid groundwork for your future progress—is now . . . *now* while time is still on your side. If you fail to recognize that fact, you'll know only struggling, skimping and regret when your earning power should be at its height.

FOR THE BUSINESS MAN WHO REFUSES TO STAGNATE

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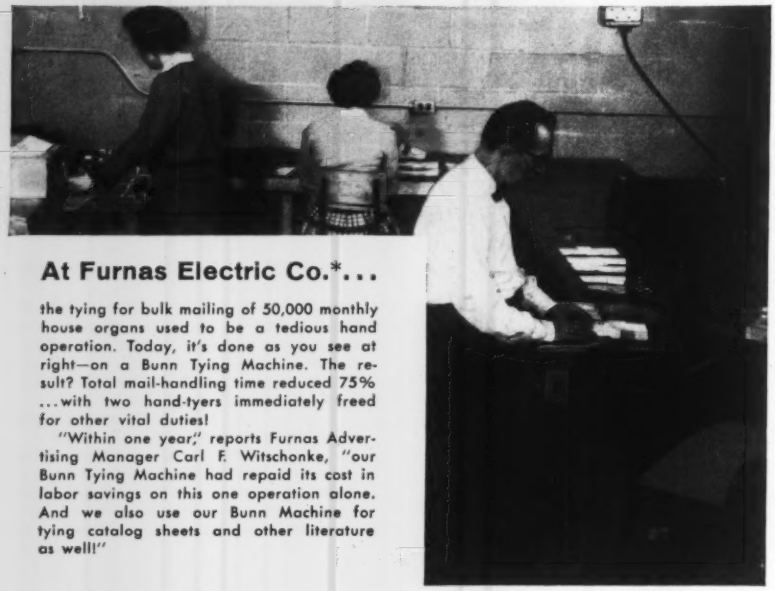

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*Furnas Electric Company, Batavia, Ill.

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ness activity, however, will not be able to count on inventory build-up as a prime stimulant for the rest of the year. One thing that will take its place is increased spending for new plants and equipment.

Capital goods industries have recently reported gains in orders and output. This is especially true of manufacturers of freight cars, machinery, and machine tools. Steady gains in industrial activity of this sort will prevail through the end of the year.

Another stimulant to capital spending will be continued wide profit margins. Corporate profits during the second quarter of this year were estimated to be at a record level. Year-to-year gains in the second half will be less noticeable because the profit picture had begun to improve during the last six months of 1958.

Higher spending for new plants will bring substantial gains in industrial building.

Increases here and continued high levels of commercial construction—office buildings, stores, and so on—will offset declines in outlays for residential construction and Federal expenditures for highways. Total outlays for construction so far this year have exceeded those of last year by about 15 per cent, indicating that 1959 will set another record.

The level of new housing starts has remained surprisingly high recently, but a slight downturn is likely in the coming months. More expensive mortgage money and higher construction costs will discourage some prospective home buyers.

Increased spending by consumers and business will lead to a resumption of price rises before the end of the year.

Abundant supplies will hold food prices at current levels through the fall months, but food costs will start edging up during the winter. This, along with increases in prices for apparel, services, and some household goods, will push the consumer price index to new high ground early next year. Major causes of this inflation will be record-breaking consumer buying and more borrowing by business for expansion and modernization.

This report was prepared in the Business Economics Department, DUN & BRADSTREET, INC., by John W. Riday.

Business Men's Expectations

- *Fourth-quarter outlook generally good for all lines*
- *Durables manufacturers most optimistic about sales*
- *Wholesalers are the most cautious about gains in profits*

SALES topping last year's level are anticipated for the fourth quarter of 1959 by better than three-quarters of 1,505 executives queried in DUN & BRADSTREET's latest poll of business men's expectations.

Seventy-six per cent of the respondents expect year-to-year gains, 21 per cent foresee no change, and only 3 per cent anticipate declines. The favorable sales outlook in the current survey almost matches the record optimism expressed in similar polls for the second and third quarters of this year and in the 1950 and 1955 surveys. In interpreting these opinions, however, it should be remembered that such inquiries generally draw quite optimistic responses.

Although business men in all the major classifications express this sales optimism, it is a bit higher among the manufacturers of durable goods, as in the previous poll.

Profit prospects are bright

The executives are not quite so optimistic about their profit prospects as they are about sales. Yet, 61 per cent expect year-to-year profit gains, 36 per cent expect no change, and 3 per cent expect declines. They are a little more hopeful than in the previous survey and considerably more optimistic than they were a year ago.

The proportion anticipating profit gains is largest among retailers, and makers of nondurables are a shade more hopeful about profits than are manufacturers of durables. In both the third quarter survey and the similar one last year, just the opposite was true. In the current poll, wholesalers are not quite so optimistic as the other respondents.

Higher inventories expected

As to inventory levels, those expecting increases over a year earlier outnumber those expecting decreases by about four to one. As in the previous survey, durable goods makers lead in expecting higher levels. Of the four groups listed, the lowest proportion foreseeing higher inventory levels is among wholesalers. Retailers lead in predicting reductions.

The sentiment of manufacturers regarding new orders is about the same as it was three months earlier. About two-thirds of those interviewed anticipate gains over a year ago. Again manufacturers of durable goods are quite a bit more optimistic than makers of nondurables.

FOURTH-QUARTER OUTLOOK

COMPARED WITH YEAR-EARLIER OPINIONS

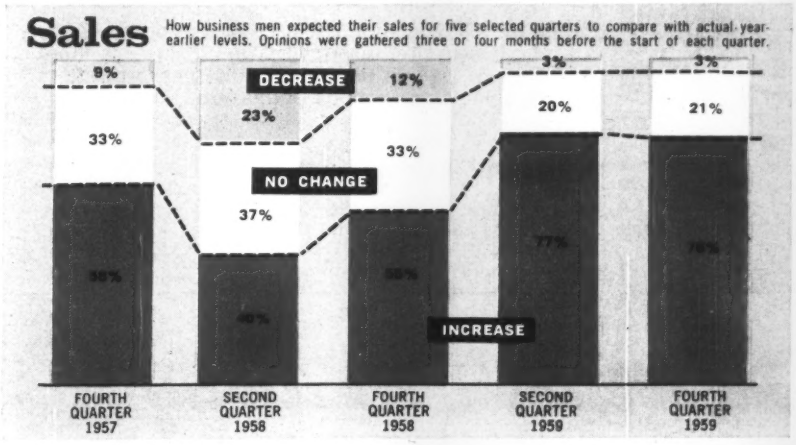
% in 1958				% in 1959		
Up	Same	Down		Up	Same	Down
			ALL CONCERNS			
55	33	12	Sales	76	21	3
38	47	15	Profits	61	36	3
17	78	5	Prices	33	65	2
20	64	16	Inventories	31	61	8
10	82	8	Employment	17	80	3
			MANUFACTURERS			
59	30	11	Sales	77	20	3
43	43	14	Profits	62	35	3
14	81	5	Prices	29	70	1
22	62	16	Inventories	34	58	8
15	76	9	Employment	21	76	3
52	40	8	New Orders	66	32	2
			WHOLESALERS			
52	37	11	Sales	75	23	2
35	51	14	Profits	58	39	3
22	74	4	Prices	41	56	3
18	69	13	Inventories	27	66	7
5	90	5	Employment	11	87	2
			RETAILERS			
47	35	18	Sales	77	21	2
30	52	18	Profits	65	31	4
11	82	7	Prices	34	64	2
16	61	23	Inventories	33	57	10
6	86	8	Employment	15	83	2

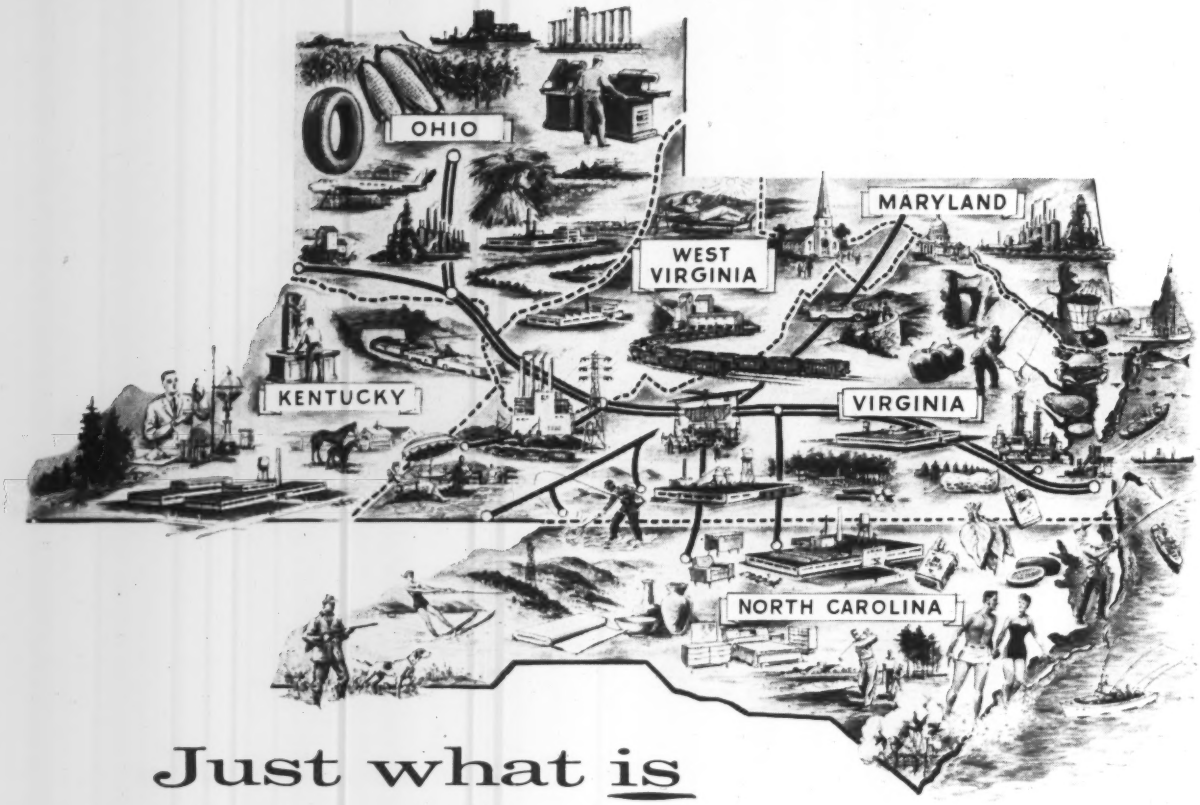
The number of respondents expecting to raise their selling prices is considerably higher than in some preceding polls, but the majority still plan to hold prices at year-earlier levels. Thirty-three per cent anticipate increases, compared with 27 per cent in the previous poll.

The large majority of respondents in all groups expect no change in their workforces from a year ago. The percentage expecting increases is largest among makers of durables and smallest among wholesalers.

It should be remembered that this survey is not a forecast but an indication of the views held by a representative group of business men when the survey was made in late July.

—JOHN W. RIDAY
Business Economics Department





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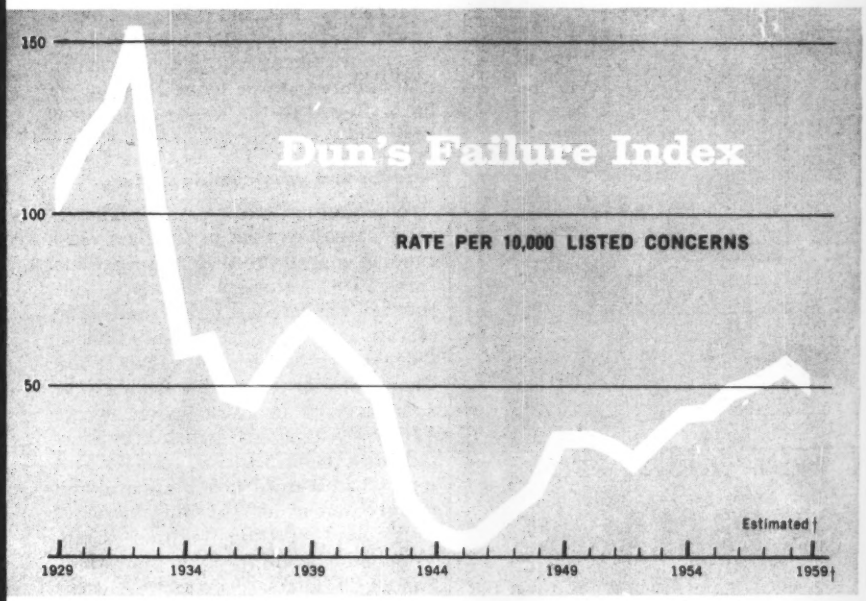
Business Failures

Casualties drop to ten-month low in July

But large-size failures raise liabilities



BUSINESS failures fell 14 per cent in July, dropping to the lowest level in ten months. Although casualties in July totalled 1,071, as compared with 1,253 in the same month last year, they remained above the July tolls for every other year since 1940.

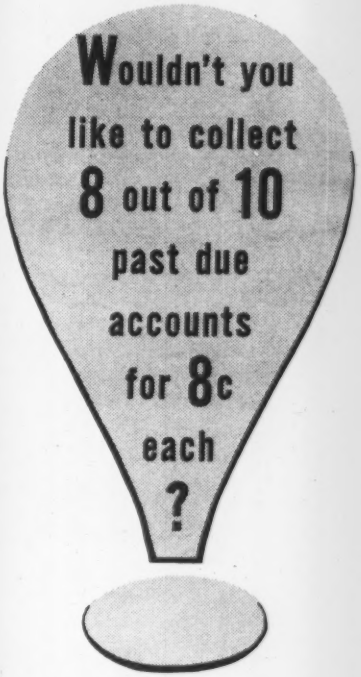
The failure rate, after an upswing in June, slipped back to 49 per 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book*. This July, businesses were failing at a noticeably lower rate than the 58 per 10,000 in the similar month last year and were off sharply from the prewar toll of 71 in 1939 and the depression toll of 171 in 1932.

In contrast to the declines in number and rate, the dollar liabilities involved in the July casualties increased 4 per cent to $51.2 million. Failures rose among concerns with liabilities in excess of $100,000. Casualties under $25,000, on the other hand, fell to their lowest level in more than two and a half years. Fewer businesses succumbed in all liability size groups than in the previous July. A dip of 4 per cent among the largest failures widened to a drop of 35 per cent among the

WHY BUSINESSES FAIL——Year ended June 30, 1959

APPARENT CAUSES	MFG. %	WHOL. %	RET. %	CONST. %	COMM. SERV. %	TOTAL %
NEGLECT	2.8	3.7	3.8	3.2	3.7	3.6
FRAUD	1.7	4.3	1.6	1.6	1.5	1.9
INEXPERIENCE, INCOMPETENCE	93.0	90.5	91.7	92.0	91.6	91.8
Inadequate sales	58.0	49.3	51.1	39.4	53.3	50.6
Heavy operating expenses	5.1	4.9	3.0	7.6	4.5	4.3
Receivables difficulties	13.3	18.2	6.0	16.3	5.5	9.9
Inventory difficulties	5.0	9.4	10.0	1.6	2.1	7.2
Excessive fixed assets	10.8	2.8	4.8	4.5	15.0	6.5
Poor location	0.6	0.7	5.0	0.4	1.9	2.9
Competitive weakness	16.7	22.5	25.5	31.4	23.5	24.4
Other	4.3	4.9	3.6	6.6	3.2	4.2
DISASTER	1.4	1.0	1.3	0.6	0.8	1.1
REASON UNKNOWN	1.1	0.5	1.6	2.6	2.4	1.6
TOTAL NUMBER OF FAILURES	2,474	1,376	7,110	2,072	1,229	14,261

Compiled by DUN & BRADSTREET, INC. Classification based on opinions of creditors and information in credit reports. Since some failures are attributed to a combination of causes, percentages do not add up to 100 per cent.



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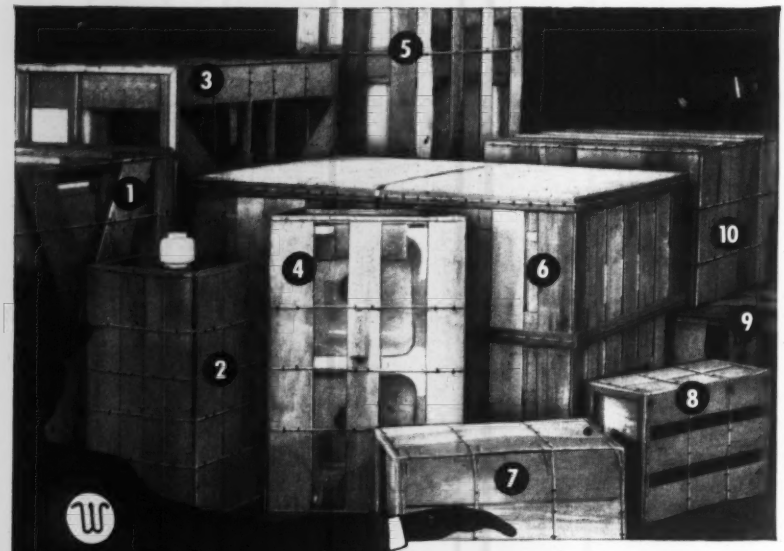

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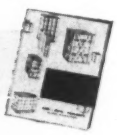

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smallest failures—those under $5,000.

The manufacturing toll held steady in July, but declines from the previous month prevailed in other types of operations. Among retailers, mortality lightened appreciably in apparel, general merchandise, and restaurant lines. Fewer food stores succumbed than in any month since early 1955. Construction failures, down from June in all lines, dipped to the lowest level since May 1956.

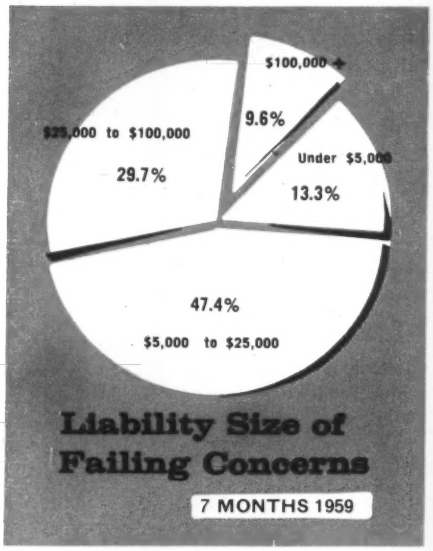
Service and wholesaling suffer

Wholesaling and service suffered more casualties than in July last year, running contrary to the general decline from 1958. Among wholesalers, tolls rose in all trades except food. The service increase was concentrated in the transportation and repair lines. The most marked decline from a year ago occurred in construction, where only half as many general builders failed. In manufacturing, tolls were off more than a third in the apparel and lumber industries. The only increases took place in transportation equipment and printing and publishing. Among retailers, decreases of more than 30 per cent were noted in apparel, building materials, and food.

FAILURES BY DIVISION OF INDUSTRY

	Cumulative total January—July		Liabilities in million $ January—July	
	1959	1958	1959	1958
MINING, MANUFACTURING	1,439	1,697	111.1	161.6
Mining—coal, oil, misc.	48	58	4.6	10.3
Food and kindred products	105	121	8.6	10.4
Textile products, apparel	239	339	12.2	24.1
Lumber, lumber products	288	309	14.8	20.2
Paper, printing, publishing	105	114	6.5	6.2
Chemicals, allied products	37	41	2.8	2.4
Leather, leather products	49	71	4.4	9.2
Stone, clay, glass products	32	37	2.5	7.6
Iron, steel, products	86	111	5.9	10.8
Machinery	140	171	22.8	17.0
Transportation equipment	56	45	5.2	13.5
Miscellaneous	254	280	21.0	29.9
WHOLESALE TRADE	830	877	50.2	44.3
Food and farm products	179	201	16.1	9.6
Apparel	25	43	1.1	2.0
Drygoods	22	28	0.7	0.9
Lumber, bldg. mats., hdwe.	85	108	5.9	7.1
Chemicals and drugs	35	28	1.0	0.6
Motor vehicles, equipment	49	43	2.6	1.2
Miscellaneous	435	426	22.9	22.9
RETAIL TRADE	4,238	4,737	153.6	149.8
Food and liquor	673	684	18.2	15.6
General merchandise	194	182	14.4	7.2
Apparel and accessories	662	771	29.6	21.7
Furniture, furnishings	510	705	22.4	30.1
Lumber, bldg. mats., hdwre.	258	310	8.4	10.4
Automotive group	591	678	15.9	27.4
Eating, drinking places	823	859	23.7	23.8
Drug stores	72	102	2.1	2.7
Miscellaneous	455	446	19.0	10.9
CONSTRUCTION	1,179	1,313	67.5	72.3
General bldg. contractors	403	538	36.2	38.8
Building subcontractors	679	703	24.2	24.6
Other contractors	97	72	7.1	8.8
COMMERCIAL SERVICE	753	700	38.0	40.3
TOTAL UNITED STATES	8,439	9,324	420.4	468.3

Liabilities are rounded to the nearest million; they do not necessarily add up to totals.



Six of the nine major geographic regions reported June-to-July downturns. Increases were noted only in the South Central and Pacific states. The decline from a year ago was concentrated in five regions—New England, the Middle and South Atlantic, East, and West North Central states. In the large cities, the decline from June and from July 1958 was stronger than in nonmetropolitan areas. New York and Philadelphia had noticeable dips.

THE FAILURE RECORD

	July 1959	June 1959	July 1958	% Chg.†
DUN'S FAILURE INDEX*				
Unadjusted	45.8	53.3	54.1	—15
Adjusted, seasonally	49.2	53.8	58.2	—15
NUMBER OF FAILURES	1,071	1,244	1,253	—15
NUMBER BY SIZE OF DEBT				
Under $5,000	114	167	175	—35
$5,000—$25,000	508	583	583	—13
$25,000—$100,000	340	397	381	—11
Over $100,000	109	97	114	— 4
NUMBER BY INDUSTRY GROUPS				
Manufacturing	203	203	255	—20
Wholesale trade	113	130	105	+ 8
Retail trade	518	633	613	—15
Construction	137	167	181	—24
Commercial service	100	111	99	+ 1
LIABILITIES (*in thousands*)				
CURRENT	$51,197	$49,197	$65,375	—22
TOTAL	51,435	51,302	67,255	—24

*Apparent annual failures per 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book*.
†Percentage change, July 1959 from July 1958.
In this record, a "failure" occurs when a concern is involved in a court proceeding or in a voluntary action likely to end in a loss to creditors. "Current liabilities" here include obligations held by banks, officers, affiliated and supply companies, or the governments; they do not include long-term publicly held obligations.

This report was prepared in the Business Economics Department by Rowena Wyant.

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WASHINGTON Business Front

JOSEPH R. SLEVIN

- ✔ *Federal authorities mull over some new ground rules for trading in the Government securities market.*
- ✔ *Second look at unemployment picture suggests "war babies" are slowing recovery.*
- ✔ *Consumers go into hock with a vengeance, but nobody is too worried about it: they can afford it.*

WASHINGTON, D.C. — Important changes are soon to be made in the huge U.S. Government securities market. It's the biggest of all securities markets, but it's unregulated and discloses little information about its operations to the public. The changes won't come quickly. But they are on the way. The last frontier of wide-open securities trading is about to be fenced in.

It probably had to happen sooner or later. The reason it's happening now is that the Government securities market was hit last year by a speculative buying spree that gave way to a disastrous near-collapse. Countless inexperienced investors tried to make quick profits and got hurt. Grave damage was done to the market where the U.S. Government sells its securities, the market that mirrors investor confidence in the credit of the United States, the market where the Federal Reserve System buys and sells Government obligations as it goes about its day-to-day job of regulating the money supply.

The changes that are in prospect are not drastic. Secretary of the Treasury Robert B. Anderson and Federal Reserve Board Chairman William McChesney Martin, Jr. are conservative men with a profound faith in free markets. They hope to introduce changes that will prevent a recurrence of the 1958 speculative excesses without hampering the market's ability to match buyers and sellers at prices that reflect underlying supply and demand pressures.

Makeup of the market

The Government bond market is small and tightly knit. There are only seventeen dealers, including five big banks that have Government securities departments. They handle $200 billion in orders in an average year—five times the volume of the corporate stock and bond transactions that take place on the New York Stock Exchange.

Some people call it a wholesale market. Transactions are big. Multi-million-dollar deals are common. It is a negotiated, over-the-counter market. The dealers buy and sell at prices agreed upon in bargaining with one another and with their customers. Instead of being made publicly, transactions customarily are negotiated over the telephone.

The customers of the dealers are other dealers, several hundred big corporations, several thousand large commercial banks, insurance companies, mutual savings banks, savings and loan associations, pension funds, state and local government funds, and a few very wealthy individuals.

A special investigation completed in late July by a Treasury-Federal Reserve team has convinced Secretary Anderson and Martin that one of the market's most glaring weaknesses is a failure to supply the public with a steady flow of accurate information. One of the almost incredible aspects of the 1958 speculative binge was that no one in authority knew it was taking place.

Needed: more information

The U.S. Government securities market is the only major market that does not report the volume of its transactions to the public. It reports the bid and asked prices for securities, but doesn't disclose the prices at which buy and sell orders are executed.

Members of the New York Stock Exchange are required to make public the positions that they hold in outstanding issues. It seems likely that one feature of the push for fuller information on the U.S. Government securities market will be regular public reports of the total net positions of the seventeen dealers.

The dealers buy and sell tremendous quantities of securities for their own accounts. The Treasury-Federal Reserve investigators found that their big stake in market movements raises a number of nasty problems:

- A desire to protect his interests can tempt a dealer to sell his own securities before he executes a customer's sell order in a rapidly falling market. The same selfish motive can tempt him to buy for his own account before he buys for a customer in a rising market.
- Dealer trading can initiate speculative swings in market prices and can

Ever figure what automatic doors are worth to you

at home?

Open garage doors invite trouble from dirt, theft, heat loss, and weather; and there's lots of work and downright inconvenience many times a day, in manually opening and closing your doors. (If you're like most families, you open or close them eight to 14 times a day.)

You take these for granted: automatic starting and automatic transmission in your car, automatic heating, automatic lighting, automatic laundry, automatic cooking. But even your *auto*mobile isn't fully automatic unless you've eliminated all the in-and-out hopping to handle your garage doors —the largest moving unit in your entire home.

Your garage door *can* glide open smoothly and quietly—and down to snug, sure closings—at the command of a pushbutton control on your automobile dashboard. *Barber-Colman Weather-King radio control* does it, activating a *Barber-Colman Electric Operator.* Easy to install *and surprisingly inexpensive* on your present door, or with a precision engineered new *Barber-Colman OVERdoor.*

aggravate swings that stem from other causes.

- A dealer's desire to stimulate market activity or to push prices up or down can influence the investment advice he gives to customers.

The authorities are groping for some way to regulate dealer activities. One proposed solution calls for establishing a dealer association that would regulate ethical standards and trading practices.

The big 1958 speculative spree was aggravated by tremendous purchases of Government securities on credit. Since there are no legal margin requirements, a buyer had to make a down payment only when margin was demanded by the bank or broker who financed him. Buyers used several devices to obtain securities without a down payment and without an interest charge. One of the most effective was the "repurchase agreement"—an arrangement that provided for a corporation or bank buying securities under a contract that called for having a speculator "repurchase" the obligations at a future date.

The Treasury and the Federal Reserve are exploring a number of methods of curbing the excessive use of repurchase agreements in particular and buying on credit in general. One proposal calls simply for having Congress make Government bonds subject to margin requirements. But Anderson and Martin hope that voluntary and administrative remedies will do the job. They would like to avoid restrictive regulation.

Unemployed "War Babies"

Government experts have come up with a new culprit in their search for an explanation of the unemployment lag. The job situation has improved dramatically since last winter, but unemployment is proving sticky.

Federal employment experts now say that part of the apparent job weakness is due to the World War II baby crop. The first small wave of World War II babies is flowing into the job market. They are young and inexperienced—the kind of jobseekers who find it hard to get on a payroll.

Government employment surveys reveal that there are more inexperienced workers among the unemployed now than at the worst point of the 1957–58 recession. The big test will come in the fall. That's when we'll discover whether the youngsters are

finding jobs, going back to school—or staying among the unemployed.

Installment Credit Boom

Consumers seem to be going in debt as fast as they can queue up to sign their names on installment loans, but Government economists predict that consumers can add to their commitments for a long, long time to come. Time buying has provided substantial support for the post-recession boom. Federal experts say it will continue to bolster consumer purchasing. Consumer incomes are at a record high and still rising. Also, consumers pay off a huge quantity of debt every day and can take on new commitments.

Installment debt outstanding has risen more than $2 billion this year. It totaled almost $36 billion at the end of June. Consumers recently have been paying off $3 billion a month and have been simultaneously taking on $4 billion of new commitments.

Rising interest rates are not expected to crimp the installment buying boom. Interest costs are a small part of the typical installment credit charge. Tight money could cut the flow of funds into consumer loans, but that isn't considered a likely development. The large return from consumer credits makes them highly profitable. Lenders are expected to cut back other loans instead.

World Finance: All Serene

The World Bank and the International Monetary Fund will hold their annual meeting in Washington beginning September 28. It promises to be an unusually quiet session. Most of their 68 member countries are increasingly strong and prosperous. Currency convertibility is well along, and there are no world financial crises on the horizon. The United States will make use of the meetings to press other countries to reduce their still substantial discriminations against dollar goods. This country also will seek adoption of a resolution that eventually could lead to establishing a new multi-nation lending agency to be known as the International Development Association. The I.D.A. is to be designed to meet the special needs of weak, underdeveloped countries that have to borrow dollars and other hard currencies to buy industrial goods but can repay only in their own soft, inconvertible currencies. END

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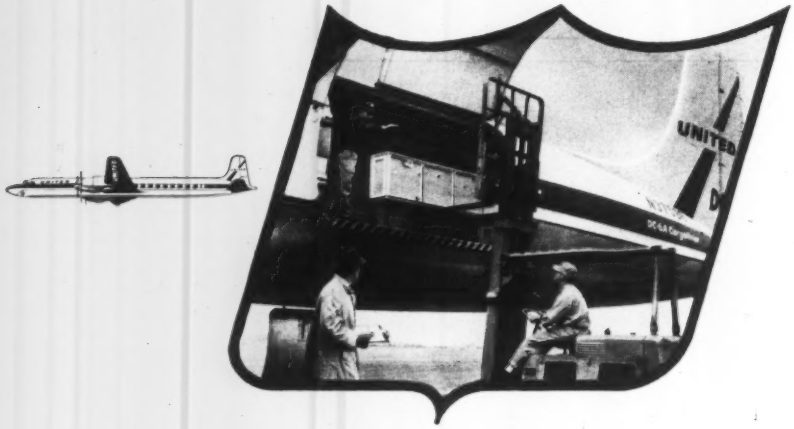

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Voice of Industry

40-Year Plan: Build a Second USA
Are the Reds Beating Us at Our Own Game?
Rising Living Standards Spur World Trade
Our Lagging Pursuit of Excellence

DR. GEORGE CLINE SMITH, *vice president and economist, F. W. Dodge Corp.*

Keeping Up with Growth

We are on the threshold of the most fantastic era of growth and change the world has ever seen. We must build a second United States and then some. We will have to double all the structures, all the facilities that now exist. And we'll have to do it before the babies born in 1959 reach middle age.

A fairly conservative estimate is that in the 1960's our population will grow by about 34 million, roughly equivalent to the total present population of Canada, Cuba, and Australia combined. This means a tremendous new market, not only for construction but for nearly everything else.

The fact that construction is going to offer an enormous and lucrative market has not gone unnoticed. Suppliers of goods and services to the industry have multiplied rapidly in recent years. Manufacturers whose lines included no building materials have suddenly become interested in curtain walls and roofing, flooring, and finishes. The number of contractors has been rising for many years, and promises to continue growing in the future. Despite all the potential market expansion, it is quite likely that competition in the building trade will be even more severe in the future than it is today. Sellers of goods and services will have to be alert and work hard to get their share of the greater market.

By the year 2000 (only a 40-year mortgage away), the population of the United States will be 340 million. Adding replacement units to the requirements of this new population, we find that at least 64 million new housing starts will be needed in the next 40 years. This is far more than the total housing stock that now exists. And housing is only one category of building.

Prospective increases in school-age population insure tremendous future demand for new classrooms. Highway construction will be expanded far beyond the present program as traffic grows. Stores, factories, utilities—almost anything you can name—will have to keep up with population growth and technological change.

Headaches there will be. Available land will be at a premium. Community facilities will be strained—and so will taxpayers' pocketbooks. Mass transportation will be even more of a problem than it is now. There will be a constant threat of inflation.

But can you name any 40-year period in the history of a nation as dynamic as ours which didn't have its serious problems? As always, the problems are challenges. And we have a huge arsenal of weapons to use against them—more than ever before.

We have the weapons of physical

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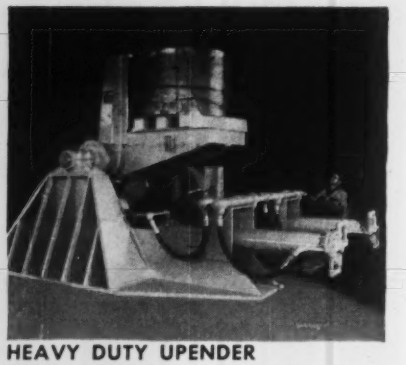
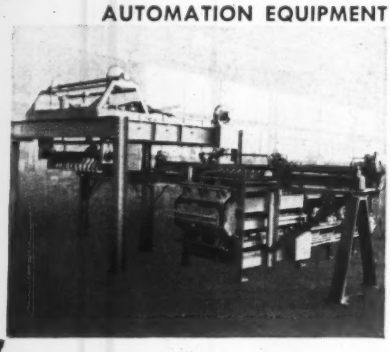


HEAVY DUTY UPENDER

LOG & CHIP HANDLING SYSTEM

AUTOMATION EQUIPMENT



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"PV" stands for *Planet Versatility* . . . a quality that has made Planet Corporation known throughout industry as an organization that has solutions to the most perplexing production, materials handling, or automation problems.

Planet Corporation engineers apply uninhibited thinking to problems to find workable solutions that increase efficiency. No job is too big or too difficult . . . Planet's "PV" engineers have automated production lines, built bulk and unit materials handling systems, designed complete foundries, developed the world's only true universal transfer device . . . they are experts, in fact, on all types of special handling and automation machinery, and materials handling equipment.

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PLANET CORPORATION 98

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science: the early beginnings of the atomic age, the electronic age, the space age, and most important of all, the age of autologics—of machines that help man to think. In the social sciences, we know far more about man and his problems. In particular, we know more about what makes our economy sick, and how to keep it well, than we have ever known before.

From a speech before the New York Society of Security Analysts.

CRAWFORD H. GREENEWALT, *president, E. I. du Pont de Nemours & Company*

Our Tarnished Incentives

Many recent observers of the Russian scene report the adoption of rewards or incentives throughout the industrial and educational fields. The Soviets seem to be resorting to the very crass capitalistic inducements that Marx and Engels deplored so vigorously.

There is considerable irony in the fact that the United States, a free nation, taxes individual rewards at rates reaching 91 per cent, while in totalitarian Russia, dedicated to the happy notion, "From everyone according to his abilities; to everyone according to his needs," the maximum income tax rate is 13 per cent.

I am afraid, however, that the tax gatherer is not the only villain in the piece. All of us have allowed incentives and rewards in certain areas to sink almost to the vanishing point.

In an experiment lasting over many generations, we have proved conclusively that a free society with incentives and rewards geared to personal accomplishment will produce a nation with a strength second to none. The Russians give signs of having learned that lesson also. Whatever form our economic warfare with Russia may

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take, we can win only if we return to those principles which have brought us to our present high stature.

From a speech before the American Institute of Chemists.

ARNO H. JOHNSON, *vice president and senior economist, J. Walter Thompson Company*

Mammoth Markets in '69

Rapid changes in the standard of living of mass millions of population throughout the Free World are building new pressures and opportunities for expansion of world trade.

In the next ten years, the Western Europe total market for consumer goods and services should grow to more than $300 billion (a 62 per cent increase over the present level) and the total production of goods and services should jump to more than $450 billion.

By 1969, if both the United States and Western Europe take full advantage of the opportunities for upgrading living standards, the per capita consumption level in the United States could reach $2,130 and in Western Europe $917, and the ratio will have declined to 2.3 to 1.

In addition, the probable expansion of private investment in Western Europe—plant, equipment, construction, and so on—from $60 billion annually in 1959–60 to more than $90 billion annually in 1969 can mean bigger markets for U.S. business.

By 1969 also, productive ability in the United States should grow to more than $700 billion as a minimum. To support this level of production will require a 51 per cent expansion in the consumer market, from personal consumption expenditures of $288 billion to $435 billion.

continued on page 29

"Heller Money Helped Build National Into One of Nation's Leading Airlines"

says G. T. Baker, President and Chairman of the Board, National Airlines

The moment was at hand in 1934 when Mr. Baker's airline, then still a Florida regional airline, could grasp opportunity and expand. Heller looked at what Mr. Baker had done, saw what he might do, and worked out a financial program. With this "leg-up" twenty-five years ago and later financing, Baker's company rapidly grew into one of the nation's big carriers, pioneering jet travel in the United States . . . one more company helped to grow by a Heller Working Fund Program.

If your company is well-managed, does $300,000 or more business per year, and needs working funds to simplify operations or make more profit . . . or if you lease or sell income-producing goods on installment . . . Heller may profitably meet your needs. Write for booklet, "Operating Dollars" no obligation.

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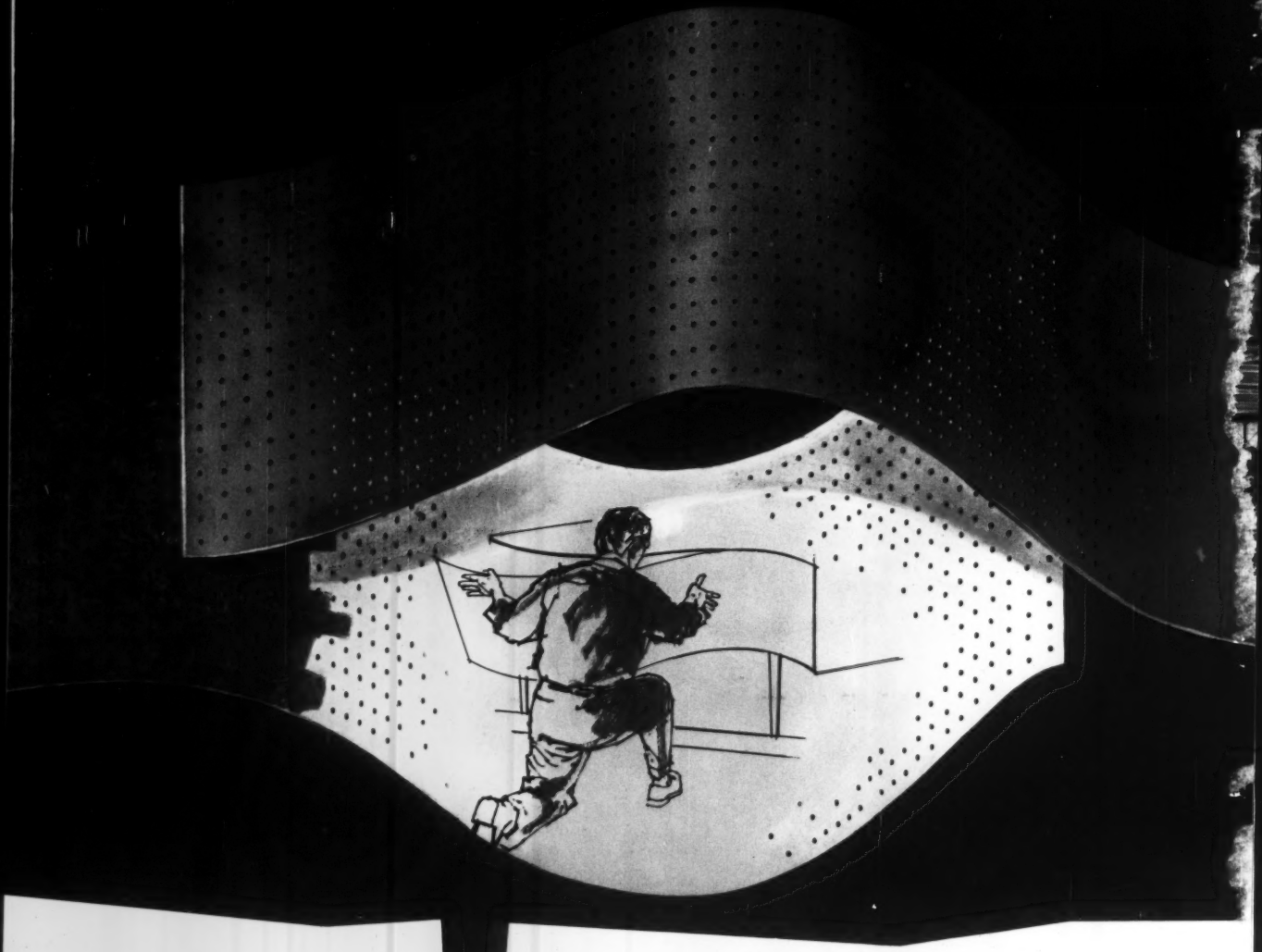
Over three quarters of a billion dollars annually for industry

you can do just about anything with Masonite Hardboards...



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for example Consider the possibilities in these new, ultra-thin hardboard panels—perforated. (You may have seen them in auto or bus ceilings.) Only $\frac{1}{12}$" thick, they take curves beautifully, lend new interest to any broad surface.

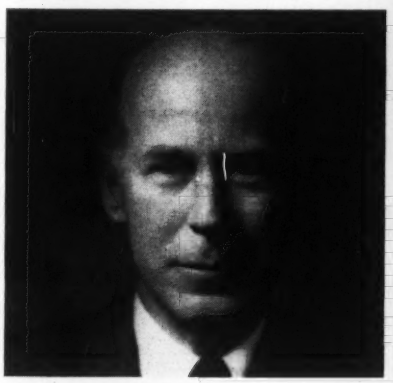
in fact Masonite offers you a complete choice of thicknesses, densities, textures and patterns. Wonderful workability. Smooth finishing. Extreme resistance to impact, moisture and wear. Whatever your design or production need, Masonite has the hardboard to do the job.

MASONITE® CORPORATION

®Masonite Corporation manufacturer of quality panel products.

History shows that world trade is quickly stimulated by increases in living standards. Since 1930, for example, U.S. personal consumption expenditures have increased fourfold. During the same period U.S. exports grew four and a half times, and imports grew more than four times. An even greater proportionate increase has occurred in Western Europe since 1950.

From a speech before the Chicago World Marketing Conference.



GILBERT W. CHAPMAN, *president, Yale & Towne Manufacturing Company*

The Threat of Mediocrity

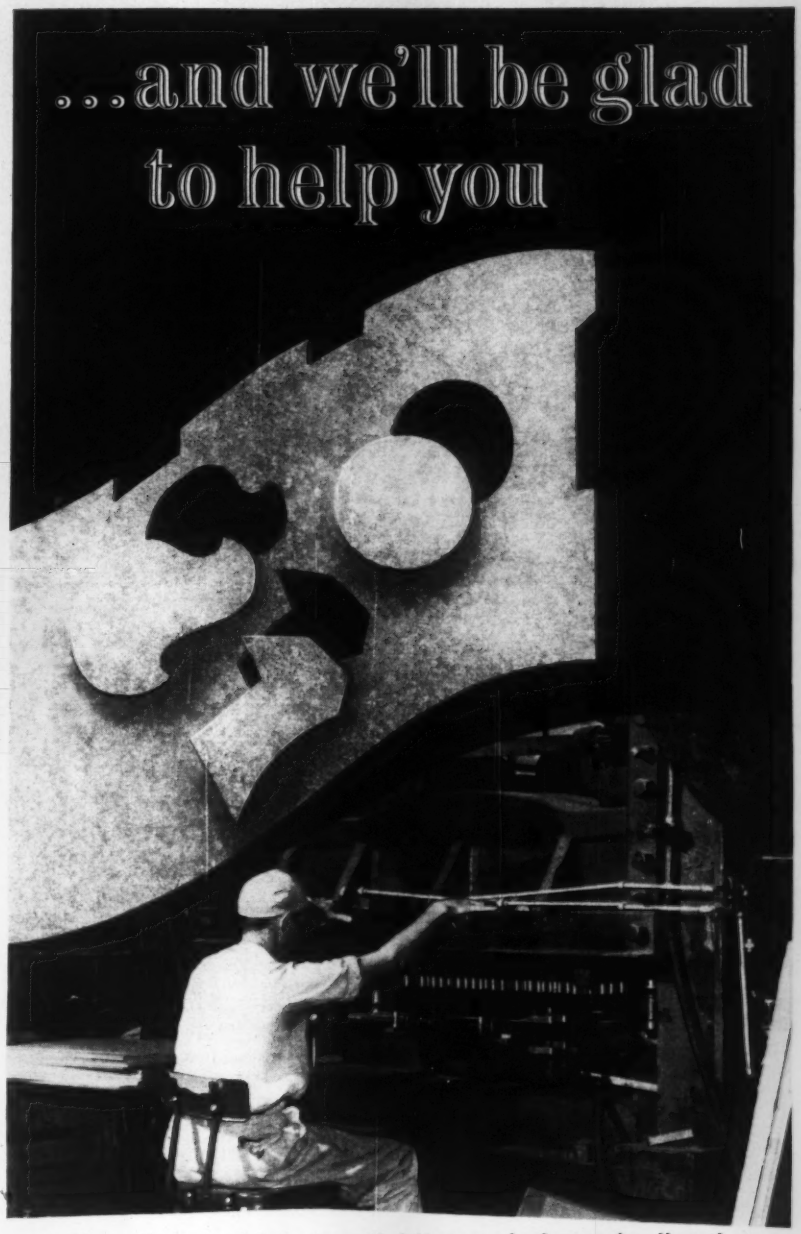
A deterioration has crept into our standards of performance which is as much a threat to our nation as any fifth column. Too often today achievement is measured by the "average" rather than the best. The importance of excellence has been minimized.

We are able to cope with rapid technological changes; we can protect ourselves militarily; we can intelligently meet most of our social problems; we can moderate the effects of business cycles. The greatest danger lies within ourselves.

Our future rests upon a rebirth of a desire in all of us to do our best, to produce in our daily tasks a quality of performance that can be obtained only by the most sincere and constant effort, through care and diligence.

Excellence is rebellion against the commonplace. It is a rejection of any doctrine propounded by government, labor, or management, which justifies the lowest common denominator as the measure of the work man should do.

From a commencement address at Roanoke College.



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Pittsburgh Forgings Co., Coraopolis, Pa., linked together six pre-engineered steel buildings

Here's a way to

Usually, the decision to expand comes only when the need for more space has become critical. Then construction time becomes a real expense, because time spent for building is time lost for producing.

Today, you can reduce that loss. Factory-built steel buildings cut construction time to days instead of months because all the parts are factory-made and delivered ready to assemble. The parts are pre-formed and fabricated. Any labor crew can assemble them.

Pre-engineered steel buildings are strong, permanent structures. The steel frame is anchored in concrete and the roofing and siding sheets are fastened down tight and snug. They stay that way because these sheets are *steel*—they don't stretch, curl, bulge or work loose at bolt holes, and the frame is strong and rigid.

Buildings like these are manufactured from high-quality USS Structural Steel and USS Galvanized Steel Sheets made to resist hard use and severe weather.

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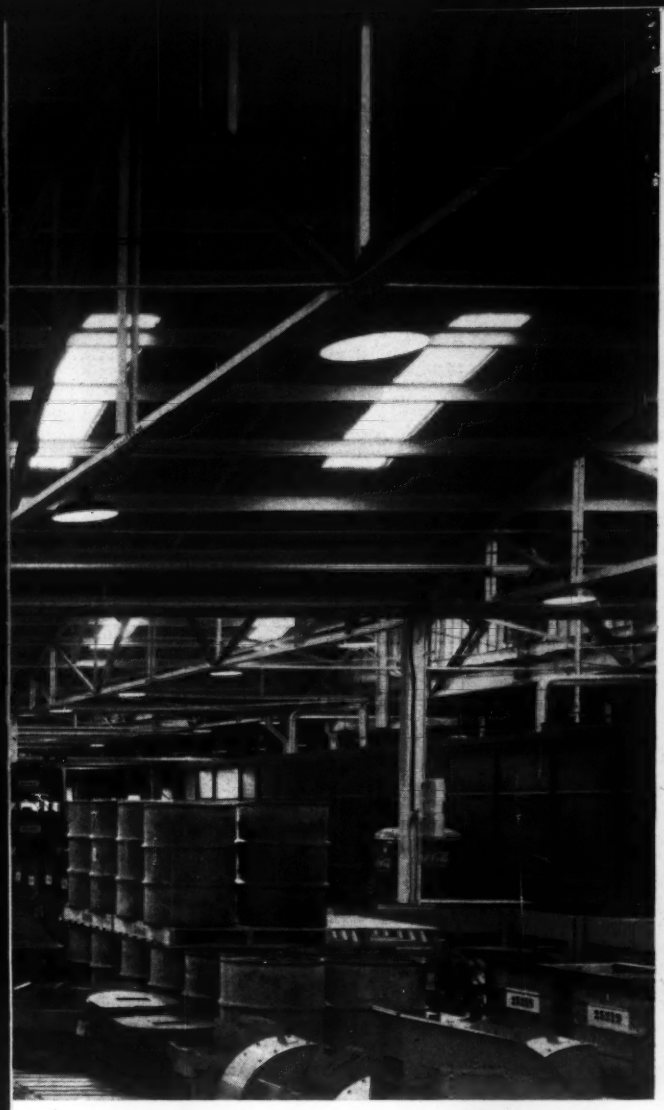

and achieved maximum space in the shortest possible construction time.

expand in a hurry

You'll see more and more pre-engineered all-steel buildings in your area. Send the coupon for more information.

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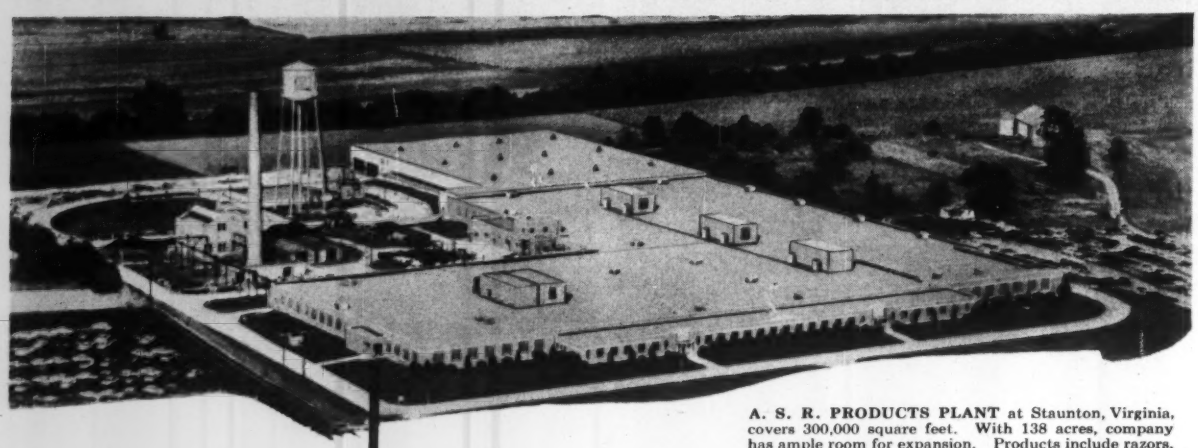

A. S. R. PRODUCTS PLANT at Staunton, Virginia, covers 300,000 square feet. With 138 acres, company has ample room for expansion. Products include razors, blades, plastics, sterile surgical blades, carpet industry blades.

NATIONAL SAFETY AWARD has been won by the plant for the past two years. Virginians learn new skills quickly. For example, A. S. R. is now training its own tool and die makers at the plant.

TRANSFERRED EMPLOYEES love the good living and mild climate . . . enjoy the hunting, fishing and outdoor life. Executives are Virginia enthusiasts, too.

These Companies Benefit From PLANTS IN VIRGINIA

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- I. T. & T. Corp.
- Dow Chemical Co.
- Babcock & Wilcox Co.
- Sperry Piedmont Co.
- American Oil Co.
- Allied Chemical Corp.

Ask Them Why They Chose Virginia!

"Productivity has never been so good. Absenteeism has never been so low."

says A.S.R. Products Corporation after its move to ***Virginia***

To make way for a proposed civic center, A. S. R. Products had to relocate their plant. After receiving bids from 50 to 60 localities, the company made a thorough study of 20 to 25 sites. Department heads visited the various sites and reported on taxes, transportation, power, water and many other factors. Employing almost 1000 people, special attention was given by A. S. R. to availability of manpower, the number of schools and churches, housing . . . everything pertaining to people. After adding up the "score" on each site, Staunton, Virginia, won hands down. Among the deciding factors were Staunton's excellent location as a distribution center and Virginia's tax laws which, considered in their entirety, were found to be very reasonable.

Highest production ever

But it was *after* the move that the real wisdom of this choice became apparent. With almost 200 employees transferred and another 800 hired locally, productivity jumped so sharply that A. S. R. is hesitant to release the figure. They will admit that absenteeism is 1.8% compared to a national average of around 5%. In the words of an A. S. R. executive, "It's been almost too good to be true."

Let us tell you more about the high productivity, the dependability of people in Virginia . . . and about the many other advantages of locating in this state. In confidence, phone, wire or write . . .

C. M. Nicholson, Jr., Commissioner
DIVISION OF INDUSTRIAL DEVELOPMENT
Virginia Dept. of Conservation and Economic Development
State Office Building, Richmond, Va., Telephone: Milton 4-4111 Ext. 2255

You, too, can find these... and many other great competitive advantages in

VIRGINIA

Whatever The Season, There's Always A Reason To Visit Virginia

A banker makes a decision

a financial leader first, your banker is likewise a man of community affairs

UMPIRING a close one on Saturday helps many a banker make wiser decisions on Monday.

That's because taking part in things close to the community's heart is a sure way for a banker to better know the people and their financial needs.

In that way, a banker can have both the understanding and the insight to evaluate an individual's financial problem, counsel local businessmen, work wisely and profitably.

In a nutshell, a banker has to be a civic doer as well as a financial counsellor. By taking on community responsibility and learning what makes his neighbors tick, a banker makes his bank more useful every day.

When all's said and done, it's usefulness that makes commercial banking so important to the nation's economy and the American way of life.

THE
CHASE
MANHATTAN
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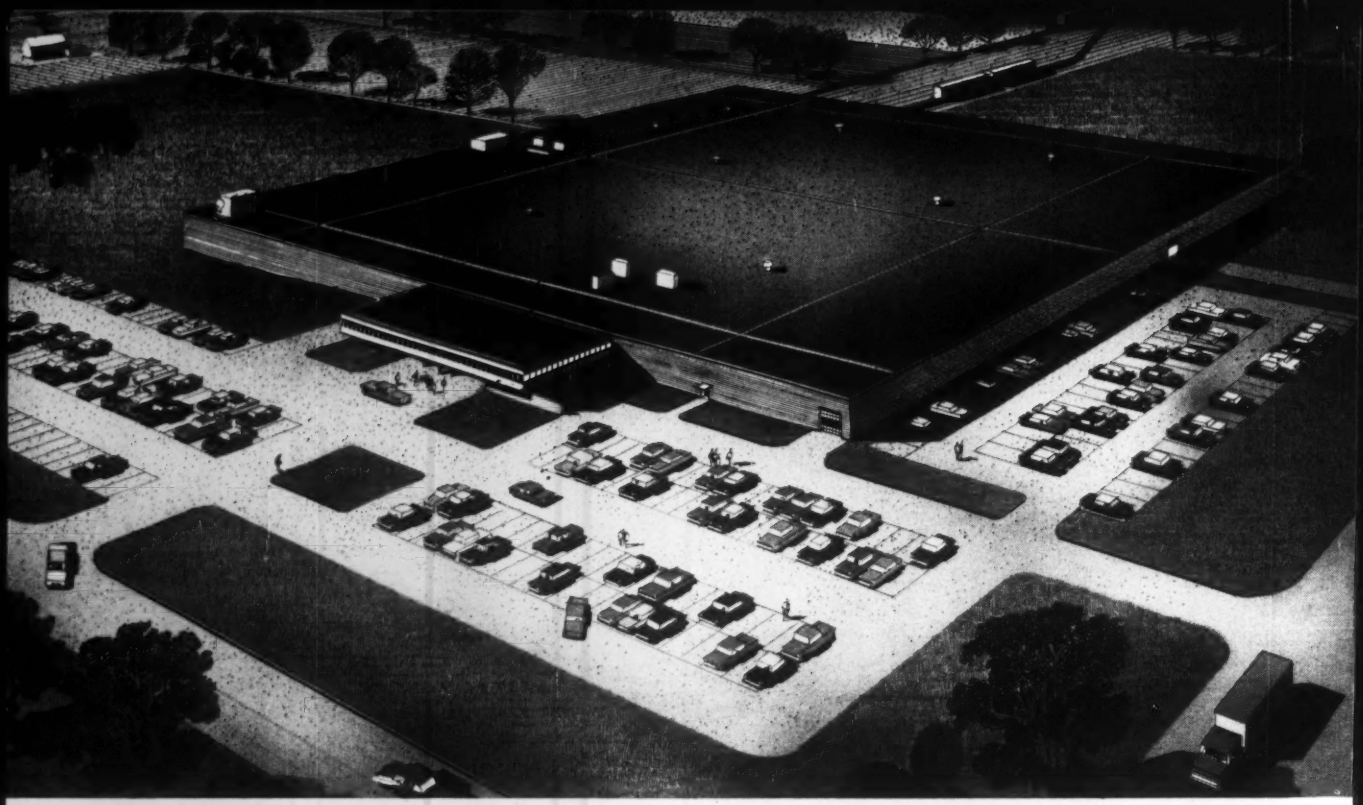
CHARTERED IN 1799

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION



Spartan Stores' efficient new distribution center, on a 36-acre tract which New York Central helped them find.

"Where?" asked Spartan Stores "Here," replied New York Central

Spartan Stores is a wholesale buying and distributing organization, owned by the 500 independent retail food stores it serves.

When Spartan's growth demanded greatly enlarged facilities, its management resolved that the new plant must be the last word in efficient planning. For advice on location, they turned to New York Central's Plant Site Consultants.

After analysis of where in-shipments came from, and where out-shipments went, along with many other considerations, Central recommended this 36-acre plot on the outskirts of Grand Rapids. Spartan moved in earlier this year and finds the location as ideally suited to its needs as is its new plant.

There is storage space for 1,250,000 cases of groceries. The refrigerated areas provide 400,000 cubic feet for frozen foods; 360,000 cubic feet for perishables. A railroad siding runs into the huge building, and twenty-four cars can be unloaded simultaneously.

Plant site selection calls for the help of experts on many subjects—transportation, taxes, utilities, labor, water, ground conditions. Often you need the confidential services of someone who knows the community. All this is freely available to you at the Central.

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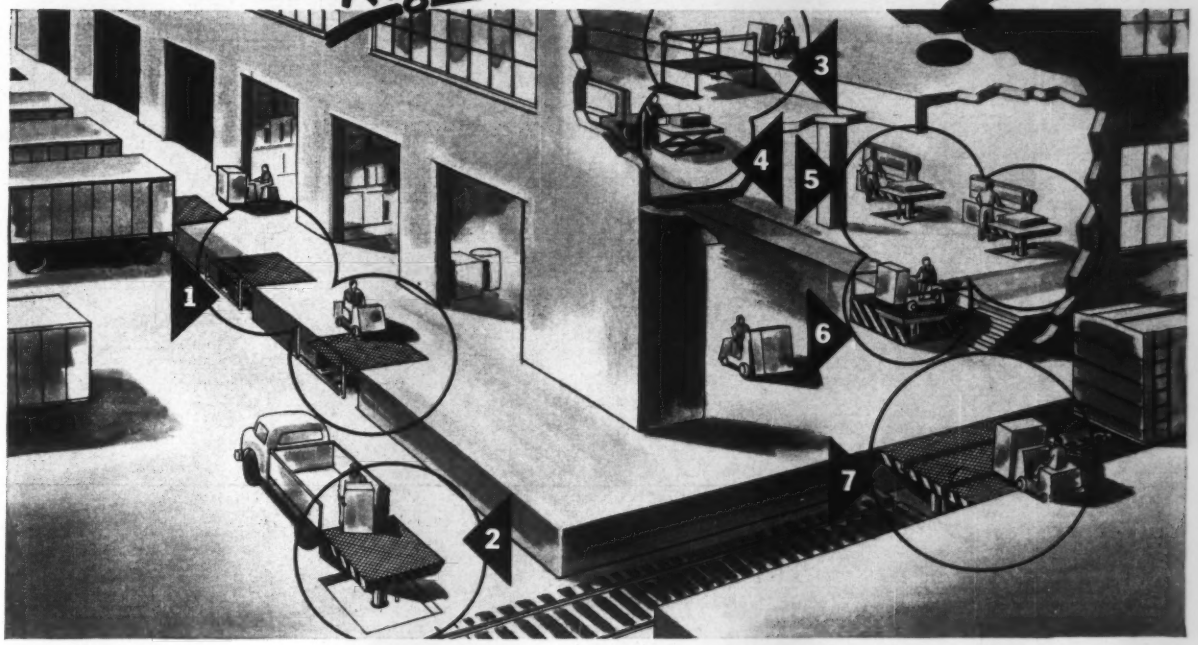

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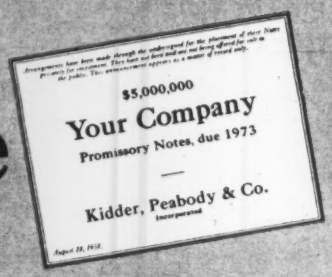

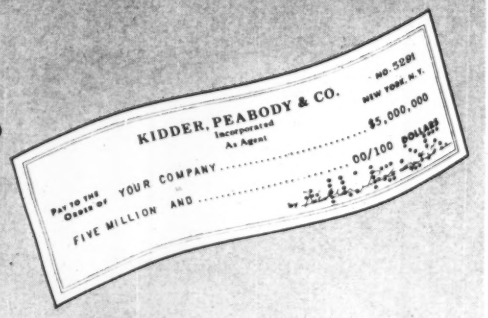

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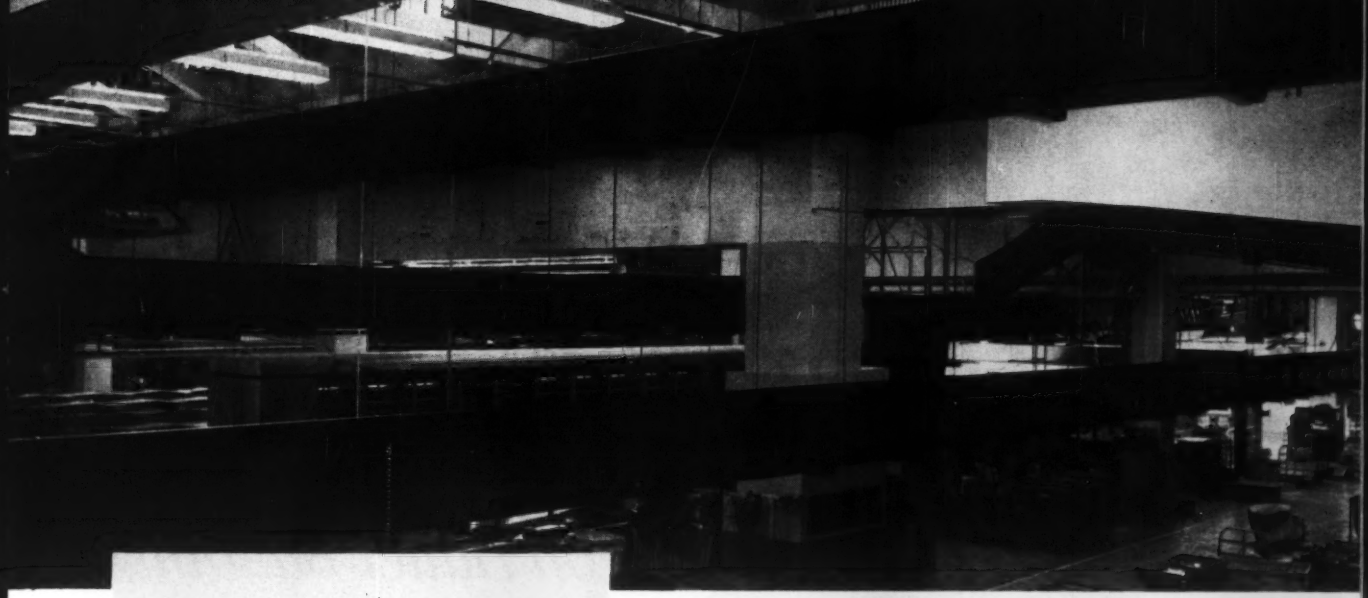

More than a mile

of OLIVER-FARQUHAR Power Belt Conveyors *now move the mail* at the Washington, D. C., City Post Office

For purposes of identification, Oliver-Farquhar Conveyors are shown in green. As installed, these conveyors are finished, of course, in Government-specified gray.

The basic facts on this new Oliver-Farquhar Conveying System in the Washington, D. C., Post Office are fairly staggering.

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- Also spiral chutes, work platforms, sorting areas, electronically powered traveling deflectors.

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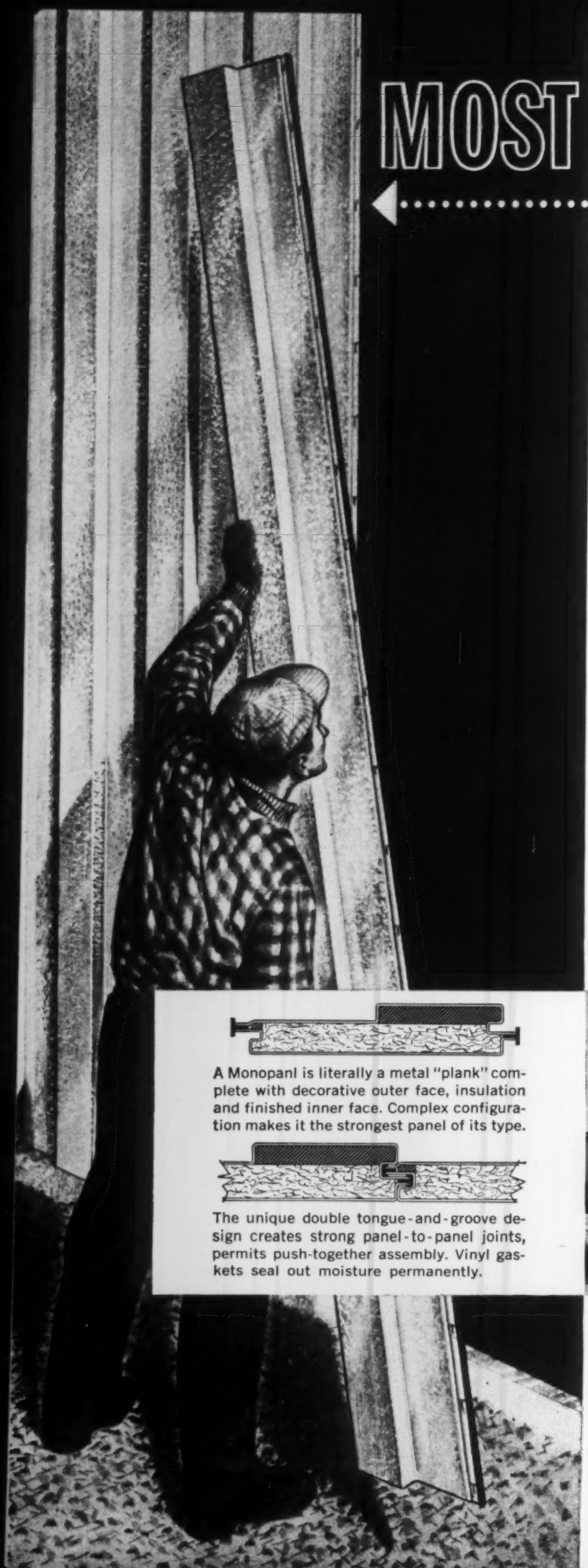

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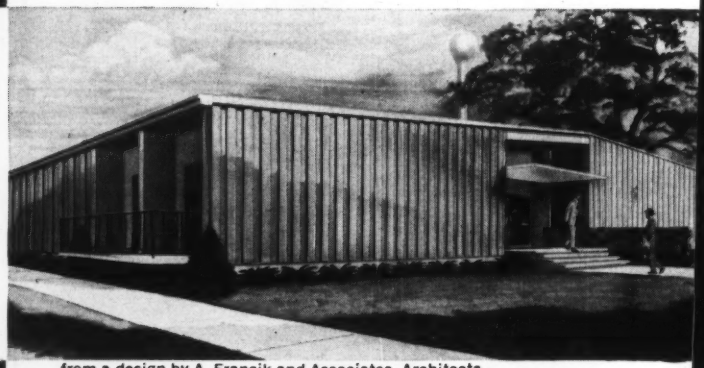
The unique double tongue-and-groove design creates strong panel-to-panel joints, permits push-together assembly. Vinyl gaskets seal out moisture permanently.



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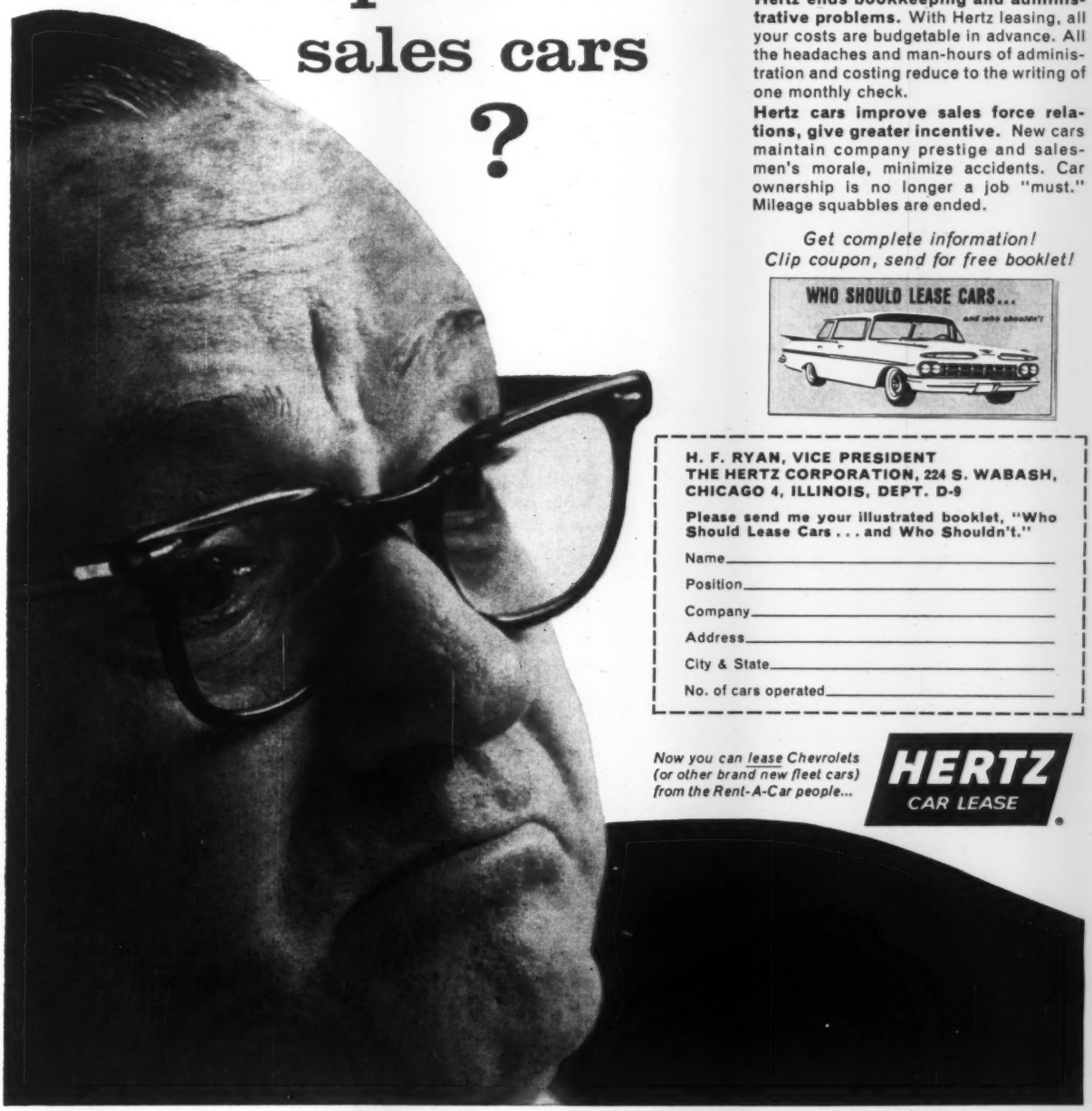

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TODAY'S SALES CHALLENGE:

Top Management Speaks Out

» *All signs point to unparalleled market opportunities as company presidents foresee a 12 per cent sales gain in 1959.*

» *Tomorrow's selling tools: New products, improved distribution, bigger and better-managed sales forces.*

DESPITE a nearly unanimous prediction of sales gains averaging 12 per cent this year, the presidents of some of America's biggest industrial companies say that the real selling opportunity is still to come.

To find out how the key men in this intensifying campaign for dollar sales plan to cash in on the $500 billion market ahead, DUN'S REVIEW surveyed the 175 members of its Presidents' Panel. These men oversee industrial companies aggregating more than $32 billion in net sales, producing their output in more than 2,500 plants, and employing better than 1.8 million people. More than seven out of ten of the companies are among the 500 largest U.S. industrials.

Here are the principal things the presidents report they will do to prepare for the selling job ahead.

- Seek more revenue from foreign sales (one-half of the presidents).
- Change distribution methods (one out of three). Many who sell through distributors will take steps to overcome jobber apathy and lack of product knowledge.
- Step up research and development in order to maintain a steady flow of new products.
- Improve sales management and sales organization.
- Maintain better control of selling costs.

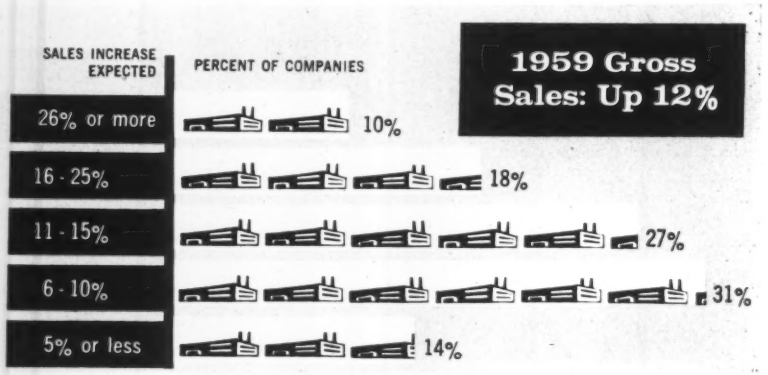
Banner year for sales

Today's sales picture gives a good indication of the potential size of tomorrow's market. Ninety-two per cent of the Panel presidents expect gross sales in 1959 to increase an average of 12 per cent, and individually they expect gains of from 1 to 100 per cent (see chart). The declines foreseen by a tiny 2 per cent minority are mainly attributed to special situations beyond management control, such as strikes and cancellation of big defense contracts.

Foreign sales today account for an average of only 3 per cent of the sales income of most big domestic industrials, but many companies anticipate boosting this percentage during the next five years. At the moment, half the companies surveyed report that income from foreign sales accounts for from 1 to 5 per cent of current sales volume; another third say it represents from 6 to 50 per cent of present gross; and the remainder report no overseas revenue.

Fully 48 per cent of the companies expect more revenue from foreign sales by 1964, as against 14 per cent expecting some decline and 38 per cent expecting no substantial change in sales. Most of these anticipated gains amount to little more than a few percentage points, but in a few instances companies hope to push foreign revenue up from 7 or 8 cents to half the total sales dollar.

But whether the prime targets are foreign or domestic, expanding opportunities will also bring bigger marketing challenges for most companies. Problems loom ahead, say the presidents, in distribution methods, costs,



Needed: More Salesmen in 1960

Number of salesmen Panel companies now employ	Proportion of Panel	Changes expected in 1960	Proportion of Panel
Under 100	42%	Increased sales force	62%
100–250	24%	No change	32%
251–500	16%	Decreased sales force	6%
501–1,000	10%		
Over 1,000	8%		

The typical Presidents' Panel company now employs 128 salesmen (median). Companies that plan to add more salesmen next year, if present sales trends continue, will enlarge their staffs to a median of 165 men.

and effectiveness; in new product creation, leadership, promotion, and obsolescence; in market penetration; in stiffening competition, aggravated by greater productive capacity, saturated markets in some instances, and competitive imports in others; in the quality of salesmanship at every level, from the company's own representatives down through the middle-distributor and dealer levels to the retail; in the company's own organizational vitality and integration.

Where the problems lie

Here are some of the specific market problems industrial leaders are concerned with, and some of the strategies their companies are using to cope with them:

• *Distribution.* A number of companies are looking for cheaper, more efficient ways to get their goods to market. One company is diversifying its product lines "so that a larger proportion of output can be sold closer to point of manufacture without increasing over-all market risk." Several companies mention adding new warehouses for better distribution, and others plan new, revised, or more selective distributorships to take advantage of changing markets.

Some companies are seeking to eliminate or reduce the layers of middlemen that separate the maker and buyer.

Many presidents say indifference and lack of product knowledge on the part of dealers and distributors are serious sales deterrents. As one puts it, "The apathetic attitude of wholesalers and the trade is our primary problem." To meet it, this company, like others, is working more closely with the outlets to provide selling know-how, more product information, better incentives, and even general management guidance in how to run a business and how to hire and motivate salesmen. Another company is "experimenting with captive distribution and analyzing customers to determine whether some now sold through wholesalers should be handled on a direct basis."

• *New products.* The competitive prosperity ahead puts new pressures on companies to accelerate the introduction of new products.

An industrial company president reports that his company is "increasing the engineering and research effort, streamlining procedures to shorten the development cycle, and reorganizing and separating sales responsibilities of line sales and product management."

• *Managing sales.* Critics have said that in the postwar decade of a sellers' market the art of selling atrophied into order taking. The recession dramatized that fact painfully for some companies, and this shock of recognition has revved up management efforts to vitalize the sales force and boost sales productivity. This conclusion seems evident from the many presidents surveyed who talk of "strengthening and improving the caliber of the field organization."

Bigger sales forces will be needed to service the growing market, say 62 per cent of the presidents. Assuming present sales trends continue, this group expects to increase their sales forces by slightly more than 5 per cent next year (see table).

Some presidents stress more selective hiring, more strenuous quotas, elimination of marginal producers, and strengthened incentives and pay plans for star producers. Others mention sales organization shake-ups that will place profit responsibility more directly on sales managers—and salesmen. In effect, the salesman is being costed and required to make a realistic profit contribution to the company.

• *Other market problems.* Import competition is a problem mentioned fairly often in the survey replies. The solutions suggested most frequently are raising tariff barriers, importing foreign-made products, or actually going overseas to manufacture.

Pricing, of course, is a perennial problem that is complicated by legal threats on one side and consumer acceptance on the other. Occasionally, credit is a concern, and one company proposes more "financing of inventory in sound situations."

Some bigger companies feel they have lost touch with the buyer, and they are seeking to reestablish more direct and frequent contact by the use of the latest communication devices and other mechanical aids that speed up ordering and servicing.

Here is how one president sums up today's market challenges and defines management's job in meeting them.

"To meet modern competition, we must step up our own competitive pressure. We must make ourselves aware of every opportunity, train our personnel to take advantage of these opportunities and instill a spirit of competitive urgency not only in our sales organization but in every sector of the company as well. For, in the final analysis, the ability to compete effectively and profitably is the end product of the combined thinking, knowledge, and energies of every employee."

Shifts in distribution

One out of three presidents of the large industrials represented on the DUN'S REVIEW Panel foresee major changes in their present methods of distribution during the next few years. And many other companies point out that their methods have already undergone drastic change.

The broadest single trend in distribution is toward more direct sales to dealers (and retailers) and more

company-owned distribution warehouses, particularly in growing population areas.

Many companies report that their current distribution methods—and alternative possibilities—are under constant scrutiny. Presidents frequently offer such comments as these: We will continue to examine our distribution patterns to see that they remain satisfactory. We have initiated a long-term distribution study project that may suggest changes. We are re-evaluating our entire marketing and current distributional methods, with the thought of better integrating our entire distributional pattern to effect the desired economies.

Some companies that have not already done so are planning changes in shipping methods. One such major change is illustrated by the report of a construction materials manufacturer: "Within the next year or so, we plan to offer truckload deliveries to all our customers." Other companies are weighing the costs and efficiencies —as well as the customer satisfaction —of rail vs. trucking.

Holding the recession gains

Getting goods to markets, of course, is only one aspect of the more complex problem of reducing over-all selling costs. Many presidents claim that recession efficiencies reduced selling costs to the practical minimum, but an all-out effort will be made to maintain these gains as dollar sales volume rises.

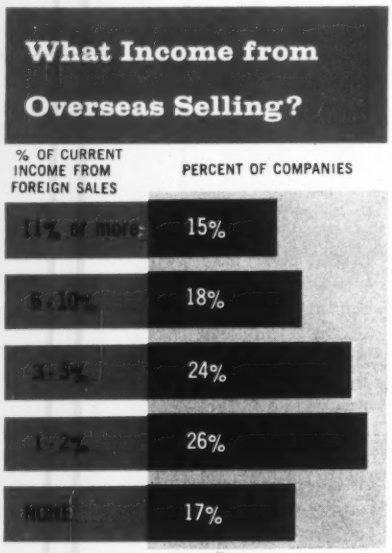
To achieve these results, the industrial executives say, their companies will do more detailed sales analysis (with data processing equipment, in many cases, to speed up information flow and lighten paperwork) and more market analysis to pinpoint sales targets. There will also be a realignment and consolidation of territories and more selective selling to promote high-profit lines and accounts and deemphasize low-profit ones. A number of companies plan to back up these policies with closer attention to product standardization, simplified forms and paperwork, and more stringent budgetary controls.

To gage the effectiveness of this sales force, there are a number of yardsticks the president can and does use. But most frequently, he applies to the sales force the same measure his board and the company stockholders apply to his own performance as manager: the degree of profit contribution. Presidents are keenly aware that the high volume of the long pre-recession boom often produced slim profit margins.

Other sales yardsticks

Apart from this acute awareness of profit ratios, which seems to characterize the president's way of measuring sales effectiveness, most presidents use one or more of the traditional methods of measuring sales performance, and in this order:

- Results vs. objectives (how sales measure against forecasts, budgets, quotas)
- Market penetration, or share of the total available market
- Company sales volume vs. sales trends or volume for the industry
- Divisional sales vs. over-all company sales
- Success in launching and selling new products
- Rate of company sales gains vs. national economic growth.



Profitability, performance against objectives, and share of the market by far outweigh all other methods used by presidents to size up their company's sales picture. But many presidents evaluate sales effectiveness by the ingenuity used in getting new business and repeat business, and on something more intangible—customer satisfaction, which, of course, generally reflects far more than effective salesmanship.

The president himself, the survey shows, is deeply engaged in guiding, stimulating, and promoting his company's sales. Beyond the more usual participation in formulating sales policies and objectives, he may open doors for his sales force by calling on the top executives of prime prospects or big customers. He may act as a trouble-shooter or peacemaker when difficulties arise with a key account. Often he plays a key role in forming corporate advertising and promotion policy. Some presidents report that they answer all complaint letters personally.

Generally, however, the president believes his most useful contribution to the sales promotion effort lies in attending conventions and trade association meetings and representing his company at community functions. More than nine out of ten of the presidents surveyed also make a point of attending the company's annual sales meeting.

Salesmen in brass hats

More than a third of the presidents report that they themselves came up through sales and even those with no specific sales management or field experience believe that the top company executive must be acutely sales-conscious. What's more, better than three out of ten company chiefs believe that salesmen make above average executives. Their key argument is that the salesman has learned to deal effectively with people. One president puts it this way: "A good executive must be able to sell himself and his viewpoint to his associates and outsiders. Actual sales experience has proved valuable in this respect."

However, nearly half the panelists say that genuine executive success depends on the individual, regardless of whether he has had selling or other experience. The president's own beliefs regarding executive potential parallel fairly closely the company practices of recruiting from the sales force.

In companies with a high degree of consumer or marketing orientation, sales background is almost a must, the presidents say.

In summary, the multiple duties the typical president assumes in the over-all company sales effort come down to this: His job is to keep all corporate activities aimed at a moving target—the constantly changing market. If one word can pinpoint the motivation behind his varied activities and over-all strategy, it is probably "profits"—their continuity and growth. —KENNETH HENRY

- ✓ *When and how to take a strike*
- ✓ *Cold war tactics replace old-time violence*
- ✓ *Management's newest weapon: reason*
- ✓ *Labor steps up economic pressure*

The Anatomy of a Strike

JAMES MENZIES BLACK

SINCE the bare-knuckled days of the depression-ridden 1930's, the nature of strikes and strike methods have vastly changed. In those days, a down-swinging blackjack or an upswung knee, judiciously placed, were as automatic an accompaniment to a work stoppage as potato chips to a ham on rye.

But today's prosperous, highly skilled blue-collar middle class likes its automobiles and split-level homes too much to welcome the lean, mean days of a bitter strike. Industry, more mature and sophisticated in dealing with labor, seldom attempts the "force play" to bring its people back to work. Instead, it relies on communications —external and internal—to enlist general support for its cause and to persuade employees to put the heat on their leaders to accept a reasonable settlement. The union also uses communications to keep its members standing pat and to argue its case before the public. Labor, having learned that violence loses public sympathy, usually tries to avoid it.

This is not to say that fist-swinging pickets are a thing of the past. They were very much in evidence at the Kohler Company plant in Kohler, Wis., where an irresistible force in the person of Walter Reuther ran head long into an immovable object—a management determined to stand by its principles. The trouble in the Kentucky coal fields, and at Harriett and Henderson Cotton Mills at Henderson, N.C., proves again that a strike still can blaze with blue-white fury. Nor can we forget Jimmy Hoffa. The truculent boss of the Teamsters plays rough and tough and has proudly created an image of himself that George Orwell might have described as "half gangster, half gramophone."

But the Teamsters' practices are not typical, and labor difficulties of the kind faced by Kohler or Harriett-Henderson are becoming increasingly rare. The modern work stoppage is high-pressure cold war with a propaganda beat. It's fought along economic lines—and communications, not physical force, are the chosen weapons.

The economic weapons

Strategically, both management and labor rely on economic need to force their opponents to capitulate. Such a thing as a "back-to-work" movement encouraged by management is almost unthinkable. Instead, industry relies on communications to persuade employees that they are suffering needlessly in a useless work stoppage to gain benefits that are essentially ephemeral. The union invariably points to the profits of the industry and claims that the worker is entitled to a greater share and that the public would be the direct beneficiary if this increased spending power were pumped into the economy.

Both sides take to the newspapers and other media of mass communication to tell their stories. Both sides attempt to enlist public support. But, essentially, the strategy of management is to sap the power of resistance in the union rank-and-file by pointing out that the gains they may hope to secure from a prolonged strike will hardly compensate for their losses.

Since the basic industries deal with powerful labor organizations which have the strength to enforce the discipline of a strike, the decision on whether or not to take a work stoppage is gravely important. Before permitting a strike, management must consider the difference between its final offer and the union's demand. This is often a matter of pennies, but when a workforce runs into the thousands, a few cents can add up to millions of dollars.

The company must also analyze such factors as timing, its competitive position, its financial ability to stand a strike, the determination of the union, the attitude of the union membership, the attitude of the Government, the attitude of the public, and the state of the economy.

A question of objectives

The strategy of a strike from the point of view of management depends entirely on its objectives. If a company's purpose is to defeat the union almost totally, if its goal is unconditional surrender, or close to it, its tactics are simply to meet force with force, to keep its plants running despite efforts of the union to shut them down. Whether or not management will be successful in such a situation depends very much on its stamina, on

the effect of the strike on its competitive position, on the attitude of state government, and on the amount of protection it can get from law enforcement agencies.

A work stoppage of this kind brings violence and bitterness. Unless the people who are willing to defy the union and return to work can be safeguarded, the chances are that management's efforts will be unavailing. Certainly, all-out conflicts of this kind are occurring less frequently. The consequences of total defeat are too great a risk for either side to take.

Three ways to win

If the strategy of total defeat may be discounted, management's methods of handling a strike can be broken down into these three broad categories:

1. *The strategy of the summit settlement:* The company's objective is to settle the dispute by dealing with the representatives of the union. It makes no move to detach rank-and-file members from their leadership through "divide and conquer" communications. It does, however, use communications to explain its position clearly to both the public and to union members. However, it avoids personalities and is very restrained in its attacks on the officers of the labor organization.

When employing this strategy, management relies on the firmness of its position to convince union officers that they cannot hope to win a senseless war of attrition, that the intelligent thing to do is to seek a solution—which management is usually willing to offer, provided its main objectives are secured. Companies which use these methods are usually large, and strikes against them affect the national economy. Managements of this kind know that public and Government pressure will have a tremendous influence on the outcome of the strike. Therefore, their tactics are shaped by such factors as the attitude of Government, the state of the economy, and the consequences of a long strike on their public relations.

2. *The strategy of over-the-head to the worker:* The company treats the union as an outside third party and aims its communications directly at the employees. Although it seldom attempts to destroy the labor organization or to initiate a "back to work" movement as a means of ending the stoppage, it does attempt to persuade the employees that their leadership is totally irresponsible and that unless rank-and-file pressure can bring the union to its senses, that same rank and file can look forward to long, grim weeks of idleness. Employees are also told that, when they do come back to work, it will be on about the same terms they could have had without a strike.

When management uses this approach, it usually makes it quite clear to the employees that the company holds them blameless for the situation. It emphasizes that they are unfortunate victims of ruthless union power over which they have no control.

The success of this strategy depends very much on the strength of the union, the discipline the union can exert over its members, and the willingness of the company to stand firm by its decision. For when this approach is used, the company leaves the leadership of the labor organization little room in which to maneuver. A defeat cannot be disguised, and since a union is essentially a political organization, an open defeat is bitter medicine indeed.

3. *The strategy of the power play:* The company decides to keep its shop operating regardless of the strike but is still willing to recognize the union as the collective bargaining agent of employees, as soon as it sees the futility of its efforts and signs a sensible contract. Obviously, this is a strategy that involves grave risk, and there is little hope of positive results unless there is a large dissident element within the union itself.

Management must also be reasonably sure it can provide protection for employees who want to stay on the job. When a company decides on this course of action, it has selected a strategy that falls just one step short of the total victory that will drive the union from its shop.

Steel takes the high road

In discussing these three types of strike strategy, it would be entirely fair to say that the steel industry uses the first and strives for the statesmanlike summit settlement.

Perhaps the philosophy of the steel industry can best be expressed by the words of a public relations executive who said in connection with the publicity campaign the steel companies conducted to explain their point of view in the 1959 negotiations:

"When management decided to deny the inflationary demands of the United Steelworkers, it wanted to es-

Factors in Your Favor

- Your employees don't want to strike. It hurts them financially.
- Time is on your side if you have the economic strength to take a strike.
- If the strike lasts more than a few weeks, employees may become discouraged and discount union promises.
- When the union sees there will be no easy settlement, it may get panicky and take extreme measures, which alienate public and employee support.
- Employees don't really know what other employees think about the strike. Cleavages will develop.
- If the union sees you are standing firm, it may settle rather than damage its prestige by losing.

What the Union Counts On

- You are hurting in the pocketbook.
- The union controls the organization of the strike. Even an unpopular work stoppage can be sustained by a powerful union, regardless of the desires of the membership. A steelworker recently put it like this, "Whether we strike or not is between the steel management and the union brass. We rank-and-filers have no sense of participation. We are like soldiers. We obey orders."
- The union can use more direct methods than you can. It can resort to force and intimidation and does so if necessary.
- Union propaganda is demagogic. Its approach is political. It makes the promises that it says it can force you to fulfill.

How to Shape Strike Strategy

- Remember a strike is industrial war. Minimum company objectives must be precisely defined in order to communicate them effectively.

- Carefully analyze the strength of the union and the support it has from its members.

- Evaluate the attitude of the international union. If it considers that a defeat would hurt its prestige, it may prolong the strike by giving all-out support to the strikers.

- Leave yourself room to maneuver. Flexibility gives you greater opportunity to apply and publicize the economic pressure of a small concession at the right time.

- Never meet the union on its own terms where communications are concerned. The union's methods are emotional. Yours must be reasonable and responsible.

- Remember firmness is your greatest weapon. The objective of your communications is to prove your stand is entirely reasonable and that you intend to stand by your position. Carefully explain what the company has offered, why it can go no further, and what the demands of the union would mean to the competitive ability of the company if they were granted.

- Don't try to start a back-to-work movement unless you are certain you can provide protection for your employees and your property. Such an action is almost sure to lead to violence.

- Never attack the employees in your communications. You want their good will when the strike is over. If you decide to undermine the power of the union by criticizing the irresponsibility of its leadership, do it deliberately, not as an emotional counter-attack.

- Don't forget that when the union calls a strike it has lost the initiative. It has done its worst. It's your chance to run with the ball.

- Don't assume that a strike will be short-lived. Once a work stoppage begins it may be extremely difficult to settle.

- Be sure to make effective use of the Federal Mediation and Conciliation Service before and during a strike. Its conciliators can often effect a face-saving compromise that helps the union climb back from a limb and come to a settlement.

- Don't permit a union to whipsaw you in industry-wide bargaining.

---

tablish a climate of public opinion in which they could say a flat 'no' to the union without its sounding like an arbitrary, pot-bellied, top-hat approach to bargaining."

In other words, steel management, before or during a strike, cannot be accused of anti-union sentiment. It simply seeks to identify the issues and to make certain that everyone understands what is involved in those issues. Company communications are designed to convince the public in general that management's stand is sensible and that it is in the best interest of everyone.

Targeting the rank-and-file

Approach No. 2 — over-the-head-to-the-workers—has been developed into a highly effective system by many managements. Perhaps it could be described as a strategy of "brinksmanship." It is intended to head off the hot war of a work stoppage, but sometimes it is developed on a crash basis just prior to a strike and continued during the work stoppage.

In 1956, the Republic Aircraft Corp. determined to keep its plant in operation when the International Association of Machinists struck the company. John J. Ryan, vice president and counsel of Republic, described the situation in these words:

> At our first meeting, the union told us they were bargaining to set a new wage pattern for the entire industry. The proposals it made were completely unrealistic and unacceptable. Labor proposed an increase of 41.5 cents an hour. The negotiations lasted three weeks with ten meetings. Our final offer was a 5-cent wage increase. The night before the strike was called, the union representatives sent us a message through Federal Mediation that they would settle for a 19.5-cent package with no further definition or explanation.
>
> In advance of the strike, the company had announced that it would keep the plants open and would welcome anyone who wanted to come to work with the assurance that Republic would give him every legal protection. Mass picketing and real violence at the company gates greeted the dawn of February 20. One hundred and thirty pickets were arrested for disorderly conduct, simple assault, and malicious mischief under the laws of the State of New York.
>
> Four days later, after viewing carefully documented motion picture evidence of these acts, the New York Supreme Court issued an injunction prohibiting mass picketing, violence, and intimidation.

Once Republic was able to control the violence at its gates, employees began returning to work. This indicated management was correct in its belief that the union did not have employee support for the work stoppage. As more and more people defied the union and came back to work, the union's efforts to keep its members in line diminished. When the strike was settled, about 60 per cent of the company workforce was already back on the job.

A war of words

Communications played an important part in Republic's strategy. Throughout the strike, the company sent letters at least once a week to the employees' homes. Letters were also sent to important people in the community—merchants, bankers, clergymen—explaining the company's position.

Obviously, the three strategy approaches to handling a strike that have been discussed here are not followed precisely or rigidly by any management faced with such a situation. A company's approach to a work stoppage must be flexible, and tactics must vary according to opportunity. There is no such thing as "going by the book." Each strike has its own characteristics, each must be treated according to the philosophy of the company that deals with it. But these are the general principles in strike strategy that most managements are guided by today when negotiations fail and a walk-out appears inevitable. END

Need Marketing Advice?

ASK YOUR DEALER

WHEN Rudd-Melikian, a Hatboro, Pa., manufacturer of vending machines, recently went into production on a coffee machine which brews one cup at a time, the unit incorporated at least a dozen engineering suggestions made by the company's Dealer Advisory Board—the people who actually operate its machines.

When the Shell Oil Company instituted its policy of allowing up to $50 in credit card charges for motor tune-ups and small repairs for passenger cars, it followed the recommendation of its Midwest Dealer Council.

When the American Motors Corp. added the station wagon that now accounts for more than 40 per cent of Rambler sales, it was at the suggestion of an organization of American Motors dealers.

Top management is becoming increasingly aware of the value of the dealer as a source for new ideas and as a critic of company policy. Companies which not too long ago created their own policies and introduced their new models solely on the basis of top-management opinion, are now seeking—and following—the advice of the men who sell their products.

The term "dealer advisory council," virtually unknown a few years ago, is now firmly established in the American business vocabulary. Formal dealer organizations have been set up to harness the brainpower of the dealer and to present his proposals and criticisms in orderly fashion to top management.

These groups meet regularly with representatives of management, and although the opinions they put forward are purely advisory, they often play an important part in shaping company policy.

Perfecting an old technique

The origins of the dealer advisory council are obscure. The idea of a manufacturer sounding out his dealers on company products and policies is probably as old as our distribution system. Meetings between manufacturing management and dealers, often at conventions, also are not new.

But recently, the trend is to regularly scheduled meetings, formal organizations (complete with officers and by-laws), and increased consideration on the part of management to their recommendations.

Probably the best-known dealer group is the Retailers' Advisory Council of the Bell & Howell Company, composed of sixteen regional representatives elected by 8,000 B&H dealers.

The delegates spend a week in Chicago as guests of B&H. The agenda is largely dealer-controlled, and only two chairs at the meeting are occupied by B&H representatives. One of these representatives is Carl Schreyer, vice president of marketing. The other is the particular B&H specialist to whom the dealers wish to direct their questions, criticisms, and suggestions. About 30 of the company's top executives—including the president—are seated around the room, but they may not take part in the discussions.

When the whistle blows, anything goes—so long as the discussion is kept to subjects on the agenda. According to Schreyer, "When the meeting is over, there is so much good information and so many important comments that it takes Bell & Howell people another week to assign action priorities."

Let the dealer do the talking

Although Schreyer maintains that the RAC has been an outstanding success for Bell & Howell, he feels the system can have pitfalls as well as benefits. Schreyer believes that management must give the dealers a chance to sound off freely and assure them that their comments will get the attention of all top executives in the company. Dealers should receive a follow-up report on action taken as a result of their suggestions or an explanation of why their ideas were turned down. Dealer meetings, he adds, are not the place for management to deliver pep talks.

One prime consideration in the establishment of a dealer advisory council is the relative importance of the manufacturers' product to the dealer. For example, if the product accounts for 1 per cent of the dealer's sales, chances are that he won't be too interested in either the council or the product, and he'll have few ideas to contribute on product devel-

» *Dealers—the men who know the consumer best—have become respected advisers on marketing policy.*

» *New ideas and intelligent criticism flowing from dealer advisory groups spell profits for many companies.*

SHIRTSLEEVE SESSION: *Dealers meet three times a year with Shell Oil Company management to speak their mind on company policies and products. Retail Manager Harry O. Krass, right center, conducts the working sessions of the advisory board.*

opment or on company sales policies.

But, if the dealer depends on the products of a manufacturer for all or a substantial portion of his income, he has a vested interest in the company, and he can provide valid suggestions.

Therefore, the dealer advisory councils are most common in the automotive and soft drink industries, where the car dealers and bottlers usually depend exclusively on the products of one company for their livelihoods. They are rare in the drug sundry field, where a dealer may handle dozens of competitive brands, no single one of which accounts for any appreciable percentage of his sales.

How American Motors does it

Probably the most successful dealer organization in the automotive field is the Dealer Advisory Board of the American Motors Corp. The AMC group was founded in 1956 after the merger of Nash and Hudson. Before the merger, Nash and Hudson had their own dealer groups, but they were not regarded too seriously by nonmember franchised dealers.

According to J. R. Pirchuski, AMC press relations manager, the board members, selected by management, used to come to Detroit for several days just to hear plant officials tell them "what a great company we are."

Under the new system, 21 board members are elected by secret ballot by their fellow franchised dealers. Each board member has one vote, regardless of the size of his dealership, and serves a one-year term. Unlike the Bell & Howell dealer organization, which is chaired by a company official, the American Motors group elects its own chairman.

The two-day sessions attended by all of the company's top officials are held twice a year. Tapes of the business sessions are made, and transcribed copies are sent to all dealers.

Board members are required to write all dealers in their zone (an average of 175), requesting them to suggest matters for the agenda of the next meeting. These suggestions are then passed on to the board chairman who meets with company representatives to draw up the agenda. The company adds agenda topics, usually involving new plans or products.

The American Motors group operates according to formal by-laws. This tends to make the dealers feel that the organization is a permanent body, not an ephemeral group.

Benefits for the little fellow

Industrial giants such as Bell & Howell and American Motors aren't the only concerns that have had success with dealer advisory councils. Rudd-Melikian, Inc., a manufacturer of vending machines, established its Dealer Advisory Board last year, and it has already paid off handsomely.

The R-M dealers are operators of vending machines. These men often have highly developed technical skills, and they are more familiar with operating problems than the engineers who design the machines. Several of their suggestions were incorporated in R-M's latest coffee machine.

Technical know-how pays off

In product development, the higher the dealer's technical knowledge of the product is, the more likely the advisory program is to achieve its aims. For example, dealers of toothpaste are neither dental experts nor chemists, and they can tell the manufacturer little about how to improve his product or develop new ones. On the other hand, the vending machine operator, who actually services his equipment in the field, can often tip off designers to bugs that don't show up in blueprints.

Dealer advisory councils are fairly well established in the service station field. The Atlantic Refining Company and the Shell Oil Company are two that have such programs. Probably because they have so many thousands of dealers, the major oil companies usually prefer to pick the members of their small regional advisory boards, rather than to hold elections for a national board.

Atlantic calls its sessions, which have been going on since 1951, "grass roots meetings." Edwin C. Cox, Jr., who was sales promotion manager when the program began, lists these six basic rules for the meetings:

1. No more than ten or twelve dealers should attend.
2. Company representatives should be kept at a minimum so that they are far outnumbered by the dealers.
3. No company salesmen should be invited; dealers must be able to speak freely.
4. Meetings should be informal, and management should take part as little as possible.
5. Cocktails and a good dinner should precede all sessions.
6. A thank-you letter should be sent to each dealer following the meeting.

The trend seems to be toward giving the dealers a freer hand in running these advisory organizations, and although none of these dealer groups can dictate policy or over-ride management, their suggestions are beginning to carry more weight. Growth of these councils will probably continue at a fairly slow rate, but it will continue. For, under the proper circumstances, they have proved a valuable tool of management.

—AARON STERNFIELD

SETTING UP A JOINT VENTURE: *Peter C. Allen, left, of Imperial Chemical Industries, Ltd., and Harold Blancke, president of Celanese Corp., negotiating the formation of Fiber Industries, Inc., which will produce a polyester fiber in the United States based on British technology. Similar joint ventures to bring U. S. technology to other countries are also common.*

Profitable New Look in Joint Ventures

- *Rapid technological change and stiffening competition have revived interest in a tested tool—the joint venture.*
- *Know-how plus cash equal a profitable way to exploit new techniques and market new products.*

MERGERS and acquisitions are the usual means of forming a more powerful business organization, but lately industry has been exploiting with increased ingenuity another type of business partnership—the joint venture.

Since as far back as the 1880's, competing railroads have put aside their rivalry to form joint companies to operate common terminals and common trackage. For decades, oil, steel, timber, and mining interests have been setting up joint ventures to hunt for and exploit natural resources. These types of joint ventures are still very prevalent and doubtless always will be, but the interesting trend today is the sharp increase in profitable joint ventures between *noncompeting* companies. These joint ventures take five forms:

- Organization of teams of companies skilled in complementary technologies to bid as an integrated group for big military contracts. Western Union Telegraph Company recently submitted a joint proposal with Radio Corporation of America for the Air Force's ComLogNet, a $48-million high-speed data processing network for logistics control.
- Marketing deals in which two companies agree to share the profits from the sale of a product or products that one manufactures and the other sells. A good example is the recent agreement whereby Gerber Products will merchandise a bread developed and made by the Ward Baking Company under the name of "Gerber's Baby Bread."
- Joint research facilities. The cooperative research reactor set up recently in Plainsboro, N.J., by ten noncompeting manufacturers is an outstanding example.
- Construction of nuclear power plants by a number of public utilities acting in concert. The risk and the cost of development and construction are so great that few utilities would attempt to build a nuclear power plant by themselves.
- Incorporated joint ventures (or "joint subsidiaries" or "corporate partnerships," as they are variously called) in which two or more noncompetitive manufacturing companies set up a distinct and separate joint venture to exploit new technology or a previously useless by-product produced by one of them.

In union is strength

Of all the currently popular forms of joint ventures, the last is most interesting, because it is permanent and has great potential for continued, sometimes extraordinary, growth. An indication of the potential of these cooperative efforts is their ability to create other joint ventures. Recently, for example, Sylvania-Corning Nuclear Corp., a joint venture, bought an interest in CERCA, a French joint venture also specializing in nuclear fuels.

The joint venture based on technology is not new. Back in 1920, E. I. du Pont de Nemours & Company and a French association of rayon manufacturers formed Du Pont Fibersilk Company to manufacture rayon in the United States. In 1923, Du

Pont and La Cellophane of France formed Du Pont Cellophane to bring the technology of this film here. Then, in 1929, Du Pont bought out its partners in these two joint subsidiaries. Today they're Du Pont divisions.

In the past ten years, however, joint ventures of this type have been created at a rapidly increasing pace.

One essential: harmony

One of the essentials in a successful joint venture is that the partners think pretty much the same way. If the partners in a 50-50 venture disagree sharply, there's no easy way to settle the disagreement.

For this reason, J. Russell Wilson, vice president of Monsanto Chemical Corp., and a director of Mobay, a joint venture that brought urethane foam technology here from Germany, say the growth of the venture can be speeded up if executives and directors of a joint subsidiary think as much as possible in terms of what's good for the joint venture instead of what's good for their parent companies.

Should an irreconcilable difference develop between the partners—or should one partner simply become disenchanted with the venture—a means of withdrawal generally is provided in the basic partnership agreement. A "first refusal" clause is nearly standard. This means that if one company wants to end the partnership, the other company has the first crack at buying it out. For example, in many of the basic joint venture agreements in which it participates, the Stauffer Chemical Company has the opportunity to meet any legitimate written offer to the partner.

In many of these agreements, there are formulas for determining the price at which one partner buys out the other. The formulas generally call for book value, plus an additional factor based on earnings. The basic agreement signed by American Viscose Corp. and Monsanto when creating Chemstrand provides for an unusual approach to buying out. If one partner offers to buy out the other, the latter has the right to buy out the former at the same price. This clause is designed to insure that only reasonable offers are made—in the highly unlikely event that one partner wants to pull out of this whopping success.

Disjointed ventures

These "buying out" provisions are necessary, because sometimes the ventures do not work out as one or the other partner anticipated. For example, a few years back, Cambridge Corp. was formed by Carrier Corp. and Arthur D. Little, Inc., to exploit the latter's skill in low-temperature technology. After a while, Carrier took over the entire venture. Then, quite recently, it, in turn, sold Cambridge Corp. to Standard Pressed Steel Company.

After a joint venture has become a success and has appreciated sharply in net worth, partners hesitate to sell out because of the multi-million-dollar capital gains taxes that would fall due.

The parent companies in a joint venture generally supply key personnel, although when Royal McBee and General Precision Equipment Corp. formed the Royal Precision Corp., they went outside to hire an International Business Machines Corp. executive as president.

According to Dr. Frank Reichel, chairman and chief executive officer of American Viscose, the fringe benefits offered by a joint venture are usually higher than those of either parent, because they are the best possible combination of the two. This is one of the inducements used to recruit employees from the parent companies. Once a joint venture gets rolling, it generally lures people from the open market. But it can always draw on the parent companies in an emergency.

There are no hard and fast rules about the proportion of cash supplied by joint venture partners. Sometimes one partner supplies most of the know-how and laboratory facilities, and the other corporation supplies the bigger share of the capital. In

Reichel

"Joint ventures can't be planned or anticipated. They just happen."

Place

"Each partner should contribute something material to the venture, not just cash."

Decker

"The best advice I can give is to pick a corporate partner who has something you don't have."

Wilson

"Picking the right partner for a joint venture takes as much care as picking a marriage partner."

other cases, both supply cash and equivalent sales or technical know-how.

Once the joint venture is launched, it is generally expected to meet its own cash needs either by retention of earnings or by borrowing. Banks are usually willing to lend money to joint ventures because they know that the corporate partners will always stand behind their creations. Joint ventures prefer not to raise cash by offering stock to the public, because this would weaken control by the parents and force unnecessarily early distribution of earnings.

Some go sour

Risk sharing was the *raison d'etre* for the older joint ventures set up by competing companies to exploit natural resources. Although this is rarely true for the new breed of ventures, the risk-sharing aspect still is important. Some new joint ventures, just like conventional corporations, have gone sour. For example, more than two years ago, when the Government was desperately force-feeding the construction of primary titanium mills, Allied Chemical Corp. and Kennecott Copper Corp. formed a joint venture to make titanium. Shortly afterwards, advances in astronautics eliminated the need for enormous quantities of the metal. Luckily, Allied-Kennecott had not yet constructed its plant, as had some of the other joint-venture titanium producers. The operation now lies dormant.

Actually, the joint venture in itself is a risk-sharing technique that is often employed to further another risk-reducing objective, diversification.

The big payoff

Nevertheless, most joint ventures have been successful—some spectacularly so. Last year, Owens-Corning Fiberglas surpassed the sales of one of its two parents, Corning Glass Works. In the same year, Chemstrand made a greater profit on sales of its nylon than one of its two founders, American Viscose. The profit return of Chemstrand to its co-owners has been so great and has aroused such public interest that the company has been distributing annual reports for the last three years although it is under no legal obligation to do so.

Since the Department of Justice does not legally have to approve joint ventures as possible restraints on trade, it usually is satisfied with taking a routine look at the agreement signed by incorporated joint venture companies. If one of the partners, however, is already under the gun of the Justice Department, very close scrutiny of the new venture can be expected.

The Government has taken action in those cases where it believed that a joint venture was achieving monopoly status or restraining trade. In 1948, Owens-Illinois Glass Company and Corning Glass Works, under threat of antitrust action, sold some stock in their joint venture, Owens-Corning Fiberglas, to the public. Today, neither parent company has any representation on the board of directors, according to William G. Decker, president of Corning.

However, the new trend toward joint ventures between noncompeting companies seems unlikely to provoke antitrust action.

Incidentally, it is standard operating procedure for foreign governments to approve all joint ventures in which outsiders, including American companies, have an interest.

Foreign complication

Setting up joint ventures in foreign countries is a much more complicated procedure than in the United States. In many countries, foreign companies have no choice but to organize a joint venture to comply with nationalistic policies. Many American companies —e.g., Dow Chemical—are considering setting up joint subsidiaries with leading companies in European Common Market countries in order to protect their well-established markets.

Although the U.S. Government puts no legal blocks in the way of joint ventures, the Federal tax laws do pose some problems. First, any dividends to the owners are taxed, but at the low rate of about 8 per cent. Secondly, losses by a joint venture cannot be deducted from the profits of the parent companies in figuring their income tax bills.

Neither of these restrictions is particularly inhibiting, however. A joint venture generally doesn't make enough money for the first five to ten years to give the owners a return on their investment. Once it starts making money, the co-owners usually plow back earnings to increase their equity. And since it is the exception for any stock to be held by the public, the directors are under no pressure to declare dividends.

The joint venture is an increasingly valuable financial tool, but it can't be used indiscriminately. As Hermann G. Place, founder chairman of General Precision Equipment, puts it, the prospective joint venture has to be a "natural" (see box). It can't be planned or force fed.

Under the right conditions, a joint venture can provide the know-how and speed of operation needed in a business era in which rapidly changing technology gives companies too little time to develop some deficient process or market a by-product with a limited life cycle.

—MELVIN MANDELL

Perfect Partnership

Royal Precision Corp. is an excellent example of the newer type of joint venture based on know-how. It combines the computer technology of General Precision Equipment with the complementary business machine sales know-how of Royal McBee.

Hermann G. Place, then chairman of GPE, wanted to exploit the computer technology of the Librascope Division of GPE, which had been developed in fulfilling many top-level Government contracts. However, GPE did not have any sales organization or any experience in selling business machines. It also lacked the necessary service force.

Place knew and trusted Phillip M. Zenner, president of Royal McBee, and so his was the first company Place approached. Royal McBee had a large sales force, experienced in selling its data-processing systems, but it had no electronic computers to sell.

As finally set up, both companies contributed equal amounts of cash to the joint venture, which is still essentially a research and development and administrative organization. Its only product, the LGP-30, a small electronic computer, is manufactured by Librascope, Inc. for costs, plus a reasonable profit, and sold by Royal McBee for selling costs, plus a reasonable profit. So far, more than 200 machines have been delivered and many more are on order. Eventually, Royal Precision plans to develop other products.

Today's Office—Getting Set for Tomorrow's Opportunity

Special Report to Management

The Office Prepares for Tomorrow's Challenge

A new survey of 285 companies reveals in detail what's still wrong with office operations, what must be done now to prepare for the challenge of tomorrow's markets. 54

New Approaches to Office Operations

What can a company do to speed up the processing of sales orders while improving the accuracy of information handled? How can a small company put a computer to work for better management control? 78

Is Your Office Up to Standard?

Measurement, the first step in scientific management, is being applied to all parts of office operations, from air conditioning to workloads, in order to increase productivity. 101

Ideas You Can Use

Here's a roundup of practical ideas you can use to improve the efficiency of your office operations—including new approaches to filing, office layout, and decor. 112

Making Equipment Pay Off

There's a big difference today in the way management is evaluating investments in office equipment. Here's how progressive companies weigh both the tangibles and intangibles. 114

The Mailroom: Open-and-Shut Case for Automation

How has the handling of business mail changed in recent years? What are the principles to follow in designing an efficient, low-cost mailroom? 118

"Sound" Approach to Office Design

With more machines, noise becomes increasingly vexing in many offices. Yet, in trying to control noise, some companies have gone too far. Here are tested ways to beat the noise problem. 124

New Trends in White-Collar Jobs

White-collar employees now outnumber blue-collar workers, and all indications point to further growth. Recruitment and training will be real challenges in the years ahead. 128

The Office Prepares for Tomorrow's Challenge

This Special Report to Management was prepared under the direction of Senior Editor Thomas Kenny, assisted by Senior Editors Melvin Mandell and Kenneth Henry.

LIKE the settlers pushing westward 70 years ago, management today is impatiently eyeing the promised territories just ahead. In predicting the markets of the coming decade, economists are as optimistic as the prospectors of 1889. In their visions, an ever more prosperous nation will add about 30 million people, and average family income (in today's dollars) will be nearly a third larger by the end of the decade.

But as the wagons of business rolled toward the promised land this autumn, many companies had the uneasy feeling that something was dragging. And with good reason. Top management has concentrated both money and mindpower on getting its production plant in fighting trim for the competitive years ahead. Strenuous, fresh approaches are being tried in physical distribution (see DUN'S REVIEW, June 1959). But in most companies, office operations are far from fully prepared for the big changes to come. Although the coming of computers has drawn top management's attention to office operations as never before, only about one-fourth of all companies have shown any active interest in controlling office or administrative costs—costs which are growing each year and which will be even more important in the near future.

But critical forces now shaping up in office operations promise during the next decade to revolutionize the way management gathers information and controls corporate activities. Alert companies are now moving to harness these forces—and the company that ignores them will find itself left far behind in the rush for the markets of the Soaring '60's.

The vital factors

Here's a brief rundown of some of the forces now at work:

- Office technology is gathering momentum and will produce equipment that will completely reshape information handling in most companies. Already in operation is equipment that uses television to transmit not only information but actual copies of documents from one part of the nation to another. The documents are printed by the TV tube.
- A new era of simple, low-price, automatically programed computers will open up opportunities for companies that could not afford to use giant brains.
- Office operations are about to go through a period of basic reorganization. Progressive companies are already adopting new patterns of organization to meet the needs of tomorrow. Service centers will be set up where

In most companies, the cost of office operations is rising year by year. Despite some successes in individual concerns, management as a whole is still a long way from getting the paperwork under control. This eight-part Special Report to Management examines the basic changes that are now taking place in office operations all across the nation, as management prepares for a decade of expansion.

data will be produced for the use of the key personnel in all departments who will analyze the data and use it as the basis for their decision making.

- Office personnel will become scarcer just as demands for new information are increasing.
- Top management is increasingly aware that it can make money by spending money on its office operations. Fewer companies in the next decade will look upon office operations as overhead or burden. Most will consider them the key to better coordinated control of production and distribution.

Needed: increased awareness

But a new survey by DUN'S REVIEW (for details see page 56) reveals that most companies are not yet aware of the changes that are coming and that a great deal remains to be done to ready office operations for the new decade.

Fully one-fourth of the 285 surveyed companies feel that their office operations are really not in good shape for the future. And among the smaller companies, the proportion of unprepared rises noticeably. Thirty-one per cent of the manufacturers with sales of less than $10 million feel unprepared, compared with 25 per cent of those with sales from $10 to $49.9 million. However, only 17 per cent of those with sales of $50 million and over think their office operations aren't in good shape.

The percentages of companies which say they are unprepared for the future ranged from 12 per cent in the chemical industry to 34 per cent for manufacturers of nonelectrical machinery.

Looking ahead five years, virtually every one of the companies surveyed expects to have more mechanized office operations. And their plans for improved data proccssing include all kinds of equipment, such as accounting machines, punched-paper-tape typewriters, tabulating equipment, and electronic computers. They are looking ahead to mechanization that will start with data from source documents (such as sales orders) and turn out all operating data now produced by clerks in various departments. Small companies are particularly interested in making use of small desk-size computers.

According to International Business

NEW IDEAS: *Faced with fast-growing paperwork, management in many companies is increasingly turning to mechanization, straight-line production techniques, and fresh design to get office operations in trim for the years of expansion ahead.*

Machines Corp., the further spread of electronic data processing will probably be the most pervasive change of the next decade. This prediction (a natural for IBM) has the authoritative support of unbiased experts. Widespread acceptance of the SPAN idea in computer usage could bring thousands of moderate-size companies into big computer processing. SPAN is the name of a computer organization jointly owned and operated by three competitive Hartford, Conn., insurance companies. It provides the facilities of a computer to companies that can't afford such equipment on their own but have common operations. Setting up computer centers in industrial parks will also make data processing methods available to many small companies.

Making computers available to all

The recent development of automatic programing by Remington Rand and IBM will also put computers within the reach of many companies that couldn't afford them before. According to Y. P. Dawkins, director of marketing programs for IBM's Data Processing Division: "For a considerable time after a computer is installed, programing costs can equal the cost of the machines themselves, but automatic programing reduces this cost by at least 50 per cent, and in some cases by as much as 90 per cent." IBM's Commercial Translator provides a common language between programmer and machine, changing English into the mathematical and logical expressions a computer uses.

Fewer than half the manufacturers surveyed—47 per cent to be exact—expect that they will be able to reduce their total clerical staff needs through increased automation during the next five years. The most optimistic hope of most of the companies surveyed is that through more and better equipment they will be able to handle the increased volume without adding to the present clerical crew.

Clerical staff will grow

Those expecting decreases look for them to range from 2 to 33 per cent, with a median decrease of 10 per cent. There is scant variation among the various size groups. Proportionately, fewer of the companies with sales under $10 million expect to be able to reduce their clerical staff needs than do those of larger size.

Fully two-thirds of the manufacturers surveyed—199 in number—expect their office workforces to be larger in 1965 than they are today. Only 35 of the 278 companies expect to be able to reduce their clerical staffs by that time, and the largest decrease hoped for is 25 per cent.

The expected increases range from 2 to 200 per cent. There is little variation among the six size groups (see page 60) in the average (median) increase expected. And 10 per cent is also the average increase anticipated in almost every one of the industry groups. (The median is the midpoint in a range of figures. Here, half the estimates fell below 10 per cent.

Here's a rundown of the specific changes in office operations reported by individual companies participating in the survey:

- We'll have increased mechanization of routine, repetitive clerical tasks and a greater shift from manual routine operations to more analytical tasks by office personnel.—*Vice president, Detroit machinery and equipment manufacturer.*
- There'll be a decline in the number of routine reports produced for management and an emphasis on answering specific questions quickly when the need arises.—*Office facilities manager, Cleveland producer of transportation equipment.*
- Increasing competition resulting in lower profit margins will oblige us to give top management more information much faster.—*Controller, Minnesota producer of lumber products.*
- In our office operations, we are going to need a new specialist—not a programmer—who will function like a scheduler in plant operations.—*Controller, Chicago transportation equipment producer.*
- We'll have achieved improved correlation of all corporate data through the use of high-speed data processing equipment.—*Controller, Connecticut machinery manufacturer.*
- By 1965, we'll have completely mechanized our data origination and flow. We'll have fully modular office furniture with workflow layouts including conveyer systems.—*Manager of systems, Pittsburgh primary metals producer.*
- Through office automation, we'll have more information available, but through better analysis, we'll reduce

About the Survey

This new DUN'S REVIEW survey of office operations is based on detailed replies to a four-page questionnaire completed by 285 corporations. Most of the replies—278—came from manufacturers, who have been classified into the following size groups:

Annual sales	Percentage
$ 1 to $ 4.9 million	11%
$ 5 to $ 9.9 million	18%
$10 to $24.9 million	21%
$25 to $49.9 million	13%
$50 to $99.9 million	12%
$100 million and over	25%

By industry (SIC classification), the 278 manufacturers break down as follows: machinery, 14 per cent; food, 12 per cent; electrical machinery, 10 per cent; chemicals, 9 per cent; fabricated metals, 7 per cent; transportation equipment, 7 per cent; paper products, 5 per cent; primary metals, 5 per cent; printing, 5 per cent; petroleum and coal products, 4 per cent; stone, clay, and glass products, 4 per cent; textiles, 4 per cent; instruments, 3 per cent; lumber products, 3 per cent; rubber products, 3 per cent; apparel, 2 per cent; and miscellaneous, 4 per cent.

The seven nonmanufacturers who responded were two utilities, a railroad, a service company, an insurance company, a mining company, and a bank.

About 55 per cent of the questionnaires were answered by controllers. The remainder came from treasurers (8 per cent), vice presidents (8 per cent), assistant controllers (6 per cent), office managers (6 per cent), systems managers (6 per cent), corporate secretaries (5 per cent), and such other executives as assistant to the president, assistant treasurer, and chief internal auditor.

unimportant details. Result: better long-range planning by top management.—*Controller, Ohio rubber products manufacturer.*

- We are now changing from procedures that have been followed for the last ten years to new standard operating procedures that will be used in all departments.—*Controller, California manufacturer of glass products.*
- We're likely to have a second shift in our office operations to make best use of new equipment.—*Secretary, Chicago producer of office equipment.*
- We'll have centralized many office operations to provide the volume needed to warrant further mechanization.—*Secretary, Minnesota manufacturer of food products.*
- Through more mechanization and analysis, we'll provide management with better controls over all functions.—*Controller, Illinois producer of small metals parts.*
- Better but fewer clerical employees will be required to interpret the data from computers into recommended action.—*Controller, Ohio manufacturer of rubber products.*

However, not all the companies surveyed are certain that their office operations will be smooth-functioning and efficient five years from now. The secretary of a Wisconsin manufacturer of lumber products admits: "I'm afraid that our office operations will only become more complicated and confused."

Centralizing office services

Judging from this new DUN'S REVIEW survey, the recent trend toward centralized office services and functions is accelerating and will probably spread into new areas during the next five years. Many of the companies report that they are centralizing such office services as filing, stenographic transcription, duplicating, and mailing. As a result, new titles, such as office services manager and office facilities director, are appearing increasingly.

Office functions, such as accounting, inventory control, and sales analysis, are being pulled back from branch offices to central headquarters in many of the companies surveyed. Both the need for tighter corporate control and the impact of new data processing equipment are behind this new development.

Companies report that to take advantage of punched-card installations or computers they have had to con-

A Seasoned Office Executive Sounds Off

Responsible for the improvement of office operations in a major company, he describes what's wrong with office management.

In our business we started out with one office. As we spread out, we provided service from the central office, but purchasing and sales and the controller and so on had to have their own office operations. We now have more than a dozen divisions, and the offices in each report to the vice president in charge of operations in the division.

I told the president of our company that I don't know what he pays them for being vice presidents of their divisions, but I wouldn't pay them very much for being office managers. They are each running a little piece of the total office operation, and they don't give a hoot about office costs. That's no reflection on them, but the fact remains that we have too many people running offices who are not really office managers and not really interested in the profit potential of office operations.

For example, every vice president who gets reports keeps them in his own private files—but why? All these records are on file in the originating department. Why should reports be kept in dozens of locations? We need to get office management back where it belongs. It isn't necessary to have one great big office, but I think we've got to have an administrative service division with a single head whose job it is to handle the office management situation and to service the operating divisions.

Every executive a part-time office manager

Throughout business, responsibility for paperwork activities is misplaced. Men who are primarily engineers, sales managers, or purchasing agents are burdened with it. Some companies are doing something about this, like the building materials company that decided their sales managers were not going to control their sales accounting offices. Well, we're in process of doing something about it, too.

For example, we have just decided that executives below the divisional vice presidential level will have no private secretaries. That is certainly causing turmoil, but when we approached the executive vice president, we said to him: "We are making about 2 per cent net, and $100,000 can be saved in stenographic salaries, because we know they are not producing now as they should. It takes $50 million in sales to produce $100,000 for us. I am sure that with an open road I can produce a saving of $500,000 in our clerical operations."

"The greatest fallacy": cost vs. gross sales

Why doesn't management see this? Because it is buried in manufacturing costs, sales costs, marketing costs. It's not in one figure, so management doesn't realize what the office is costing us against net profit. The greatest fallacy our accountants have ever produced is a comparison of costs with gross sales. You don't make anything until you get down to net profit, and that's where your expenses ought to be compared.

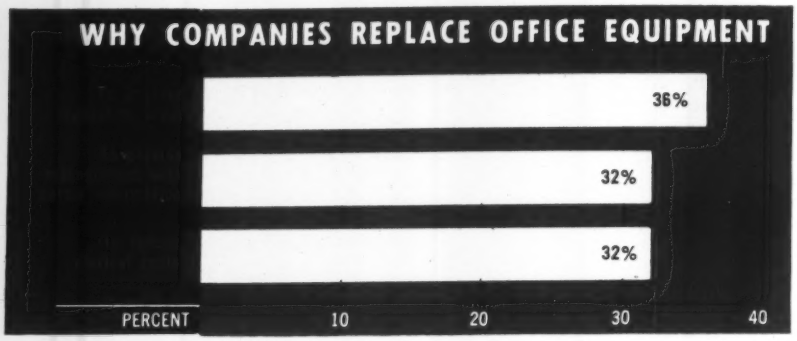
In one division, we had about two dozen private office operations. When we put them all together, the methods group had an easier time working with one man on work simplification than with the many managers who didn't give a hoot about office costs. Every one of these managers had a filing department. So we centralized all our filing. We found two dozen copies of every sales letter and price quotation and everything else. So we eliminated those and issued an order: One permanent file and one reference copy instead of two dozen.

The high cost of bad paperwork habits

I wonder whether in your business reports are being produced that top management is not using. Often management just gets into the habit of receiving these reports and has no idea of the cost of producing them. One of the things I want to do in our company—and it's going to cost me more opposition per square inch than I have ever faced before—is to evaluate the cost of all the reports that are going to all our management people and let them justify them. Then, if management says a report must be retained, my business is simply to do it for the least possible cost.

Reasons for Replacement

The 278 surveyed manufacturers indicate that most (75 per cent) of their office equipment is purchased for replacement rather than to expand operations. Expected benefits include better customer service, inventory control, production scheduling, and the like.



solidate recordkeeping to produce the volume needed to justify the installation. Also, top management's new need for more sophisticated data—analyses that show the relationships among various parts of the business—call for centralized data processing and analysis.

One of the most significant developments of the past decade has been the emergence of executives responsible for the improvement of company-wide clerical operations. The new positions of administrative vice president, organizational planning director, systems manager, office services manager, communications manager, and others are all efforts to improve company-wide information handling.

Although such an integrated approach to company-wide clerical office operations is still rather uncommon except in very small and very large companies, indications are that this new development will take hold widely during the next five years.

Respondents in 54 per cent of the manufacturers surveyed think that the responsibility for company-wide clerical operations should be given to one executive. Among companies with sales from $1 to $9.9 million, the percentage is 67 per cent. The figure drops to 57 per cent in the $10 to $49.9 million sales size and decreases again to 43 per cent for companies with sales of $50 million and over.

The look of the future

Many authorities predict that, within the next decade, office operations will have changed considerably. They foresee a new type of office manager—he's already appeared in some companies—who'll be in charge of many centralized office services, such as data processing, records retention, duplicating departments, centralized transcription, company communications, centralized filing, and so on. At the same time, they look for the emergence of strong systems departments, reporting directly to top management—perhaps to a new administrative vice president.

They visualize the central data processing department as a service department, filling the information needs of the various functioning departments. And they insist that the jobs of the purchasing agent, sales manager, traffic manager, and others will be made easier by the faster flow of data coming through an integrated data source or service unit. But these department heads must give up the hope of being part-time office managers.

Of course, such a set-up already exists to some extent in some companies, but many authorities predict that it will be widely prevalent before the end of the next decade.

A free hand needed

But they believe the strong systems executives will not develop until their work is considerably expanded. Says Norman J. Ream, director of systems planning, Lockheed Aircraft Corp.: "Systems people are going to be frustrated until they are given a free hand to do enough research to determine what operation should be performed and what information should be more available. Most of the systems effort that has been expended to date has been in trying to squeeze the last drop out of outmoded systems.

"Unfortunately, most systems people today want to start with the hardware rather than with a clear idea of what information management actually needs."

However, such frustration is not prevalent at Lockheed, where the use of sophisticated operations research techniques will make it possible to forecast inventory positions and to produce purchase orders on a computer well before the need arises. As a result, the company will need substantially less help in the material inventory group and fewer files in the purchase department.

More than two out of three of the companies surveyed admit to major problems in office operations at the present time. Sixty-four describe their problems as poor systems and procedure. These include:

- use of outdated methods and failure to mechanize
- lack of work standards and written procedures
- duplication of records among various departments
- use of too many varied forms
- misuse of equipment by overloading during peak periods
- lack of integration in recordkeeping among departments.

The rising tide of data

But whatever the inadequacies of their systems, 43 other companies claim that their primary problem is the steadily increasing demands upon the office for more and fresher information.

Although the strongest demand has come from top management, the surveyed companies say that the reporting requirements laid down by all levels of government are almost as cumbersome. The more sophisticated and precise analyses called for by middle management and the need to provide faster service to customers are also adding to the problems of those in charge of office operations.

An equal number of companies think that the blame for slipshod office operations can be traced directly to poor personnel. They point to the shortage of trained clerical workers in their localities, high turnover, and the unsatisfactory performance of

those already on the payroll. The executives surveyed bemoan the attitude of clerical workers—who, they claim, do only the minimum amount of work required and resist changes in systems and methods. Only two of the companies surveyed mentioned unionization as a complicating problem in their clerical operations.

But some respondents also blame other companies for the present state of clerical productivity. Says a controller of a manufacturing company in Phoenix, Arizona: "Our main problem is to get personnel to work on a production-line basis. If we don't overload them, they will slack off, and the easy policies of other companies certainly don't help."

The controller of a Massachusetts producer of metal specialties and identification systems says: "Our younger office employees expect to be well-paid for little effort. So, in the future, we plan to hire older workers." This feeling is echoed by the controller of a major food company in Kansas City: "Our newer replacements don't have the initiative of our older employees. They seem to be conditioned to the coffee break and indoctrinated with the idea that everything can be put off until tomorrow."

Basic stumbling blocks

Twenty-three of the companies surveyed say their No. 1 problem in office operations today is the difficulty of changing over to mechanization. Such a change frequently means coordinating the paperwork of separate departments and retraining clerks accustomed to outmoded methods.

But in addition to these surface phenomena, there are more basic reasons for the below-par level of office operations in many companies. For instance, several of the controllers surveyed say that office operations are a problem primarily because top management hasn't yet been made to understand the importance of those functions and that this is reflected in straitened budgets and undermechanization. They complain that top management doesn't seem to realize that there is an unseen price tag on every new report or analysis that is demanded from office management. Also, the tight budgets prevent controllers from hiring professional systems people who could unsnarl many snags.

Reports cost money

The controller of a New York State manufacturer of electrical machinery complains that "top management doesn't appreciate the increased work load in office operations that is created by their decisions." The assistant director of data processing in a large Midwest chemical company says: "Top management should define and evaluate company-wide report requirements, so that we can work out a unified, integrated system without sacrificing service or record accessibility."

Other controllers realize that problems in office operations are frequently the result of the decentralization that has taken place in industry in recent years. They point to the proliferation of reports needed for control and the diversity of forms, systems, and procedures resulting from decentralization. However, the countermove toward centralization and the emergence of new data processing systems which call for centralization should help to resolve this problem in the future.

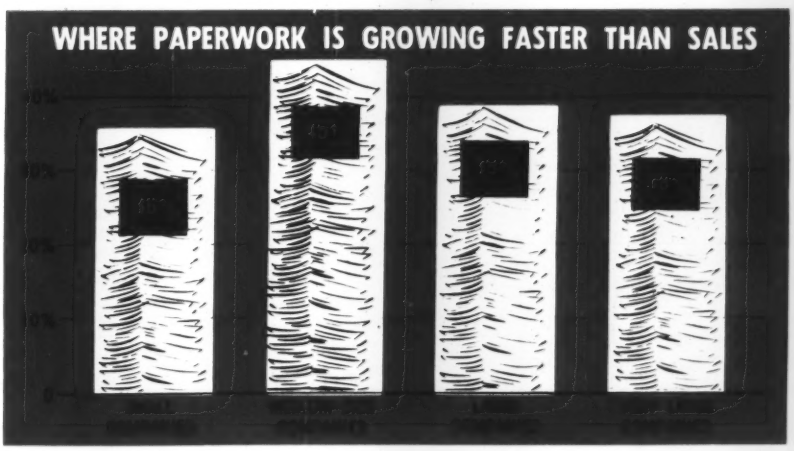
But still, undermechanization and the consequent reliance on manual operations is a bigger headache. For instance, the controller of a Maryland food company says: "Since our office operations are relatively small, they cannot be contracted or expanded as readily as plant operations. So we frequently carry excess office personnel when the workload is temporarily inadequate, rather than risk losing experienced personnel through a layoff."

Adds the controller of a New York-based textile producer: "Generally, the factory can give delayed deliveries or can decline an order because of the workload. Our payroll and other office service departments, however, are denied this privilege. The result is that we are usually slightly overstaffed. We have to carry more of a bench for pinch-hitting."

In 45 per cent of the companies surveyed, clerical productivity is described as unsatisfactory. Although the unsatisfactory clerical output is apparently more common in small and medium-size companies, it is certainly not confined to these size groups.

Why the problem?

The companies offer many explanations for this poor showing. Chief among them are the lack (or the slipshod state) of work measurement and work standards, and inadequate supervision. Others indicate that the in-



Paper Tigers on the Rampage

In 41 per cent of the 278 surveyed manufacturers, paperwork is growing faster than sales volume. Definitions: "small," $1 to $9.9 million sales; "medium-size," $10 to $49.9 million annual sales; "large," $50 to $99.9 million; "very large," $100 million and up.

formal procedures of the past are inadequate in the present period of rapid growth. In order to catch up, they are planning to develop standard procedure manuals for various groups of clerical employees. According to some office executives, clerical productivity is below par because clerical employees are more resistant to change than production workers. Since the clerical job has traditionally brought its holder a higher spot on the social ladder, clerical workers feel more closely identified with their work and frequently develop a proprietary interest in the job and the way it's done.

Work standards for clerks

Several of the companies surveyed believe little can be done to improve general clerical attitude and productivity. But most of the 123 companies with unsatisfactory clerical output are planning to develop work standards and improve their training programs and supervision methods. The controller of a major producer of air-conditioning equipment remarks: "Unmeasured work always has a lower productivity than measured work. To solve the problem, we now have a pilot installation of clerical work standards under observation." Like many others, the controller of a Penn-

continued on page 65

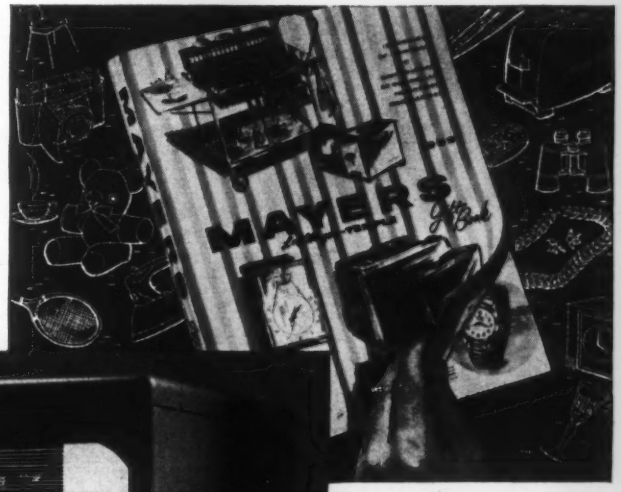
New Light on the Size of Clerical Staffs

As the result of a new DUN'S REVIEW survey of 278 manufacturers (for details see page 56), fresh information is now available on the size of clerical staffs throughout industry. This table shows the proportionate size of clerical (nonsupervisory) staffs in various industry lines. For instance, in three small ($1 to $4.9 million sales) manufacturers of electrical machinery, the number of clerical employees range from 10 per cent to 16 per cent of the total number of employees. (All figures shown are percentages.)

In some industries, there is considerable variation in the sizes of clerical forces, since some companies may perform certain functions—such as warehousing and complete distribution—that others do not.

	Sales Volume in $ Million					
INDUSTRY	*$1–4.9*	*$5–9.9*	*$10–24.9*	*$25–49.9*	*$50–99.9*	*$100 and over*
Food and kindred products	8	4, 17, 20, 29	5, 8, 15, 16, 33	4, 8, 8, 8, 12, 21	5, 11, 22, 25	3, 7, 7, 9, 11, 12, 12, 13, 17, 20
Tobacco manufacturers						8
Textile mill products	13	5, 5	8, 11, 15	5	3, 14, 44	
Apparel and related products	38	2, 4		9	7	
Lumber and wood products	6, 14, 19	4, 8				20
Furniture and fixtures		16	17			
Paper and allied products		6, 8	6, 6	10, 12	4, 6, 9	7, 12
Chemicals and allied products		12, 12, 18, 43	4, 8, 9, 21, 25, 33	8, 9, 28	4	8, 10, 10, 10, 11, 12, 15, 20, 23, 23
Petroleum and coal products		8		12		6, 10, 12, 18, 21
Rubber products		8	12	17, 36	8	9, 31
Leather and leather products		4, 5				
Stone, clay, and glass products	24, 26	3, 6, 20, 28	10, 50	8		4, 17
Primary metal industries	5	3	17		6, 9, 17	4, 6, 6, 11, 13, 18
Fabricated metal products	3, 4, 8, 9, 11	6, 7, 8, 15, 18, 23	5, 17	17, 17	9, 18	9, 17, 37
Machinery, non-electrical	10, 12, 14, 20, 31	15, 15	3, 9, 10, 10, 12, 13, 14, 16, 18, 19 30, 37	15, 22, 27, 30, 38, 50	10, 10, 10	5, 8, 9, 12, 13, 22, 40
Electrical machinery	10, 14, 16	3, 4, 8, 8, 14, 27, 57	10, 12, 13, 13, 13, 13, 15, 35	9, 10, 33	8, 12, 14, 21	17, 23, 40
Transportation equipment		8, 14, 20	9, 9, 9, 11, 18, 18, 40, 48	5, 12, 13, 21	30	15, 22, 23
Instruments and related products	16	8, 12	20		15, 20	1

What are customers buying?



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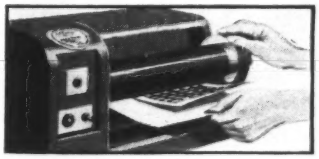
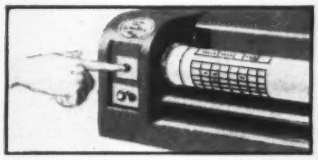


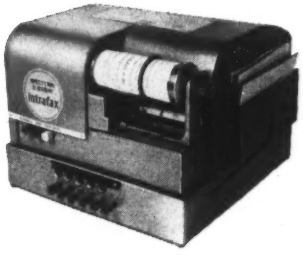
1. Slip original letter, memo, blueprint, or drawing onto Intrafax sending drum.



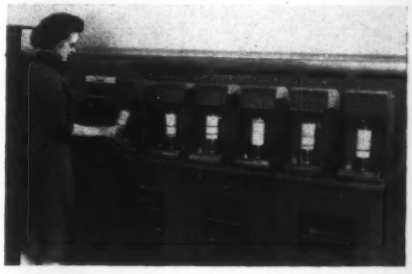
2. Press Intrafax starting button—and relax! Copy is being reproduced and transmitted automatically.

3. Copy is received in minutes at terminal point. Always dry, ready to use, and 100% accurate!

THERE'S AN INTRAFAX SYSTEM FOR EVERY TYPE AND SIZE OF BUSINESS
. . . each system is made up of a combination of two or more of the Intrafax machines shown here.



Compact sending-receiving unit is perfect for direct linkage from sender to receiver.



High-speed sending-receiving console is designed for large-volume multipoint operation to link a variety of activities.

High-speed page recorder is used for point-to-point or multipoint operations.

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in minutes . . . in writing!

Walter L. Jacobs (seated), President and General Manager, and Donald A. Petrie, Vice President for Administration, of The Hertz Corporation.

"Moore forms help us get Rent A Car reports days sooner"

A NEW SYSTEM GIVES HERTZ BETTER CONTROL OF ITS 14,000-CAR FLEET

By automating its paperwork, Hertz has simplified the handling of 1,500,000 auto rentals a year. Now management gets the facts it needs to make decisions days sooner each month. Rental statistics from hundreds of stations all over the country are complete and detailed. The company can have enough cars at the right places to meet seasonal changes in demand.

The system is built around machines that take information from punched cards, digest it, and print it on specially designed forms. The only hand operation is preparing the cards, which represent daily rental details. From there on, everything is automatic, including the printing of the finished reports. The forms used, from the rental agreement to the final summary, are made by Moore. They are the company's control in print.

"The Moore man's help in designing our forms has meant a great deal to us," says Vice President Donald Petrie. Moore's experience with Automated Data Processing systems (ADP) of every kind is at your disposal, too. Write the nearest Moore office for more information. No obligation.

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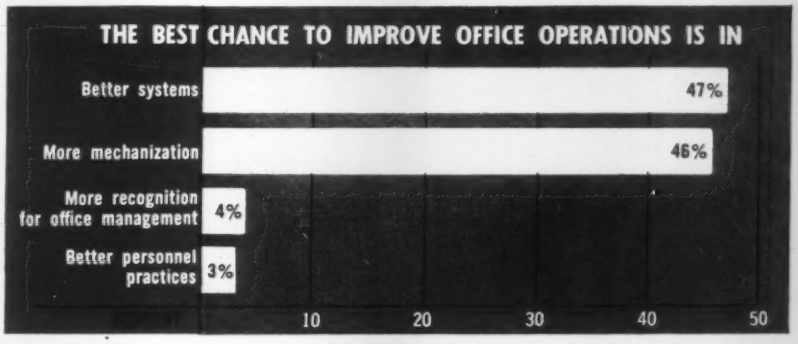

Strategy for Savings

Although the largest share—47 per cent—of the 278 surveyed manufacturers feel that better systems offer the greatest opportunity for improving office operations, almost as many think that more mechanization is the solution. Of course, alert companies usually improve systems as much as possible before proceeding to mechanize.

sylvania producer of consumer goods admits that "no definite amount of work is required in a day."

But why has management allowed slipshod office operations to persist so long? There are many reasons—most of which can be traced back to top management's neglect—but the admission of the controller of a Massachusetts chemical producer sums up the immediate situation: "We are just too busy to stop and simplify the work."

The No. 1 job

In their plans for improving office operations during the next year, half the manufacturers surveyed—139 out of 278—put work simplification at the head of the list of things to be done. This certainly reflects the growing awareness that work simplification must precede any plans for mechanization. Otherwise, the result will merely be the high-speed and mechanized handling of routines that may be outmoded or unnecessary—a not unusual occurrence in the past few years, when management's enthusiasm for advanced data processing equipment has sometimes led to hasty decisions.

Thirty-four of the companies plan to concentrate on forms simplification. Most of these companies are in the group with sales of less than $10 million, where a form frequently crosses departmental lines and can serve as a means of integrating data processing.

Twenty-seven companies will devote primary attention to records management. There is a greater concentration of attention on this office area among middle-size companies—those with sales from $10 million to $24.9 million—than among other size groups. Apparently, fast-growing companies can be quickly swamped by the rising tide of paperwork.

Companies, particularly those that don't have professional systems staffs, are trying a variety of approaches to improving their office operations. For instance, the controller of a Missouri publishing company says: "We set aside one month each year to analyze all our methods and operations to see if all are necessary, and many fresh ideas are conceived at that time."

Indicative of the changing approach of many management people are the remarks of the assistant treasurer of a Chicago manufacturer of machine tools: "Our clerical productivity is unsatisfactory because fewer scientific management techniques are used, such as time and motion study, work standards, and so on. We plan to do less coddling of employees, to know what our clerical standards should be, and to insist on a fair day's work for a fair day's pay."

Many management authorities believe that clerical employees are not generally averse to clerical work standards and actually prefer to know exactly what is expected of them, so that they can gage their own progress.

Measurement is not a means of simply getting people to work harder. By defining the work being handled, and permitting better scheduling and a choice of alternate procedures, it actually teaches office supervisors how to manage better.

The necessity for measurements

Many office managers claim that clerical employees tend to spread the workload over the entire workday. Unless there is work measurement and a resultant scheduling of the workload, mechanization in itself can bring little improvement, they say.

Consultant John A. Patton comments: "Office mechanization doesn't solve the basic problems of procedures, workload allocation, and workflow. Computers, punched-card machines, high-speed printers, and typewriters with punched-tape attachments have increased production potential tremendously, but potential can be wasted unless there is careful planning in all areas of office procedures. Otherwise, it is like installing a high-powered engine in an outdated automobile and expecting outstanding performance."

Few companies have gone so far as to develop measured work standards for both production workers and clerical employees. Although production work standards are rather common, it is a rare company—outside of such paperwork industries as insurance and service companies—that has precise clerical work standards.

Most of the many companies that are planning to adopt work standards in the near future are still the large organizations that can afford their own systems staffs or outside work measurement specialists.

Among the 278 manufacturers surveyed, only 41 have work standards for both production and clerical employees. Only 6 per cent of the companies with sales ranging from $1 to $9.9 million have both groups of work standards, compared with 30 per cent of those with sales over $100 million.

An interesting fact showed up in the survey question on productivity comparisons. The smaller-size companies report that generally their clerical workers have a higher productivity rate than their production workers. The reverse is true in most giant companies.

Do a job just once

Management is discovering that one of the best ways to improve office operations is by ferreting out unneces-

sary duplication of effort among various departments. Companies in recent years have found that duplication in management reports, in active records, and in inactive files has been part of the price for decentralization.

Also mergers, acquisitions, and management's need for various analyses of the same data from different angles have prevented companies from running completely shipshape organizations. But now, as the result of management's determination to get the office operations in fighting trim for the expansion ahead, strenuous efforts are being made to weed out unnecessary activities. Also, the coming of integrated data processing—which cuts across departmental lines—and the reemergence of centralization have spotlighted such areas of waste.

Pruning paperwork is difficult

But the job remaining is still a big one. One-fourth of the companies surveyed admit that they haven't as yet been able to eliminate duplicate work being done in two or more company departments. Among companies with sales from $1 to $9.9 million, the figure is 28 per cent, compared with 23 per cent for companies with sales from $10 to $49.9 million, and 21 per cent for companies with sales of $50 million and over.

Simplifying sales paperwork

According to these companies, the most common duplication of effort being eliminated is in the various parts of the order processing-inventory-invoicing cycle. These companies are finding—in the course of preparing these activities for integrated data processing—that very similar records and reports are prepared at each step in this cycle. Also, the fast growth of many companies in recent years has led to the development of similar records both in branch offices and the home office.

The benefits in wringing out such waste can be sizable. The vice president of a major producer of electrical equipment estimates that his company saved $350,000 in this way last year. The controller of a small (under $10 million sales) Midwest producer of consumer appliances says, "During the past two years, our production has doubled, but by eliminating duplication of effort we have absorbed the additional load without adding to our staff."

Other examples of unnecessary office operations are reported by the companies responding to the survey:

- In a large Eastern chemical company, it was discovered that detailed data on expenditures for construction work on order were kept in engineering, maintenance, and the accounts payable departments. Savings resulting from this discovery: $12,000.
- In a Maryland electronics company, duplicate records were kept in production, production control, sales, and accounting. Now the central tabulating department produces reports that cover each activity and end the wasted effort.
- In an Illinois chemical company, warehousing records for a product were maintained in both the sales and the accounting departments. Now the records are kept only in accounting. Result: savings of $20,000 a year.

Says the controller of a Maryland food company: "Too frequently in the past, office systems were designed to produce one particular report. Nowadays, we find that by broadening the base of an initial operation, duplication of effort can often be avoided in subsequent operations."

Costing office output

Increasingly, management is coming to look on office operations as it does plant production. In addition to applying scientific management techniques and striving for straight-line production in the office, management is also attempting to cost the output of the office. Thirty-nine per cent of the 278 manufacturers surveyed report that they have been able to determine the cost of processing routine kinds of paperwork, such as invoices, sales orders, purchase orders, and the like. Such costing is usually an integral part of any program to improve methods and procedures and to simplify the work.

The comparable figure for companies with sales from $1 to $9.9 million is 27 per cent; for companies with sales from $10 to $49.9 million, it rises to 42 per cent; and for manufacturers with sales of $50 million and over, the figure is 46 per cent. Only 26 per cent of the producers of fabricated metal products, compared with 63 per cent of the makers of transportation equipment, have costed their paperwork.

Although the paperwork-cost data supplied by the survey respondents vary considerably, there are certain discernible patterns. For instance, the cost of preparing an invoice varies

Gold Mines for Savings in Office Operations

Here are the average cost reduction that surveyed companies currently are achieving in their office functions.

Manufacturers with sales volume of:	Average savings	Range of savings	Average savings as a proportion of total office expenses	Range of savings (per cent)
$ 1 to $ 4.9 million	$ 9,000	$800 to $25,000	10%	1% to 25%
$ 5 to $ 9.9 million	$ 10,000	$2,000 to $25,000	4%	1% to 20%
$10 to $24.9 million	$ 20,000	$2,000 to $50,000	6%	1% to 10%
$25 to $49.9 million	$ 25,000	$5,000 to $100,000	5%	1% to 10%
$50 to $99.9 million	$ 50,000	$15,000 to $500,000	5%	0.8% to 10%
$100 million and over	$150,000	$15,000 to $5 million	2%	0.3% to 10%

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For special mailings or even daily mail, Pitney-Bowes' new Model 3300-FH is a great time saver and cost cutter. With this combined folding and inserting machine 500 single sheet enclosures can be folded and stuffed in envelopes in eight minutes.

It can be used for invoices, statements, price lists, bulletins, cards, even stapled sheets. A separate run-through will add another enclosure. The inserter unit can be attached to any PB folding machine, or run separately.

The 3300-FH is easy to set, and use. Helps avoid work interruptions, borrowing girls, hiring temporary workers, and overtime. It adds greater work capacity and, even in a small office, soon pays for itself.

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The larger Model 3100 Inserter can stuff up to six enclosures simultaneously, at speeds up to 6,000 an hour. It can also be attached to a Pitney-Bowes postage meter mailing machine, to stamp and seal envelopes after stuffing.

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TODAY'S OFFICE

from 18 cents to $8.25. However, nearly half the estimates given are under $1, and the average figure is $1.50. (Of course, averages cannot be used as standard yardsticks, for paperwork methods vary considerably among companies.)

Reported costs of processing a sales order range from 20 cents to $5, with the average at $1.80. More expensive, apparently, are purchase orders, which range from $2 to $15, with the average at $10, which is also the most commonly reported figure. But, apparently, the most expensive paperwork is the processing of shop orders, which range from $15 to $40. The cost of letters varies from $3.50 to $7.50.

Pointing up the cost of shop orders, the secretary of an Indiana fabricated

continued on page 71

What's Ahead for Computers?

Electronic data processing equipment has already had a deep impact on management theory and practice. But still more radical and far-reaching changes in business organization lie ahead, as those who use the equipment and those who produce it comprehend its full potentialities.

Not many companies that have EDP equipment are utilizing it to the fullest extent of its capabilities. Many businesses employ electronic equipment to handle payroll, billing, purchasing, and other complex, but fundamentally routine, activities. EDP equipment handles this work well, and undoubtedly this use will be greatly expanded in the years immediately ahead. Also, computers are proving to be invaluable tools in industrial research and development.

But in the future, top management will make far more valuable and productive use of computers in preparing reports for top-management decision making. In our increasingly competitive environment, where a business must grow to survive, the timeliness and completeness of reports are crucial.

EDP systems—which possess an incredibly high speed of operation; the ability to remember facts, figures, and past performances; and the capacity for digesting vast amounts of information—will be invaluable in this reporting function.

Management, in turn, will reorient its thinking on the theory of business organization. Since integrated data processing systems cut across departmental lines, the traditional functional organization may have to give way to a structure founded on objectives.

Of course, not every organization chart must be thrown out the window. But the change does call for a reexamination of such policies as centralization vs. decentralization in a multiplant operation. Establishment of a data processing and reporting center for the entire company makes it possible to continue to decentralize operational authority and responsibility, while making the vital centralization of control more flexible, more sensitive to day-to-day changes, and thus more efficient.

Installation cost of an EDP system in itself requires top management to take a fresh look at its office management and administrative activity. A small electronic computer installation, such as those becoming increasingly popular among companies of all sizes, runs in excess of $50,000. Giant installations represent investments in millions.

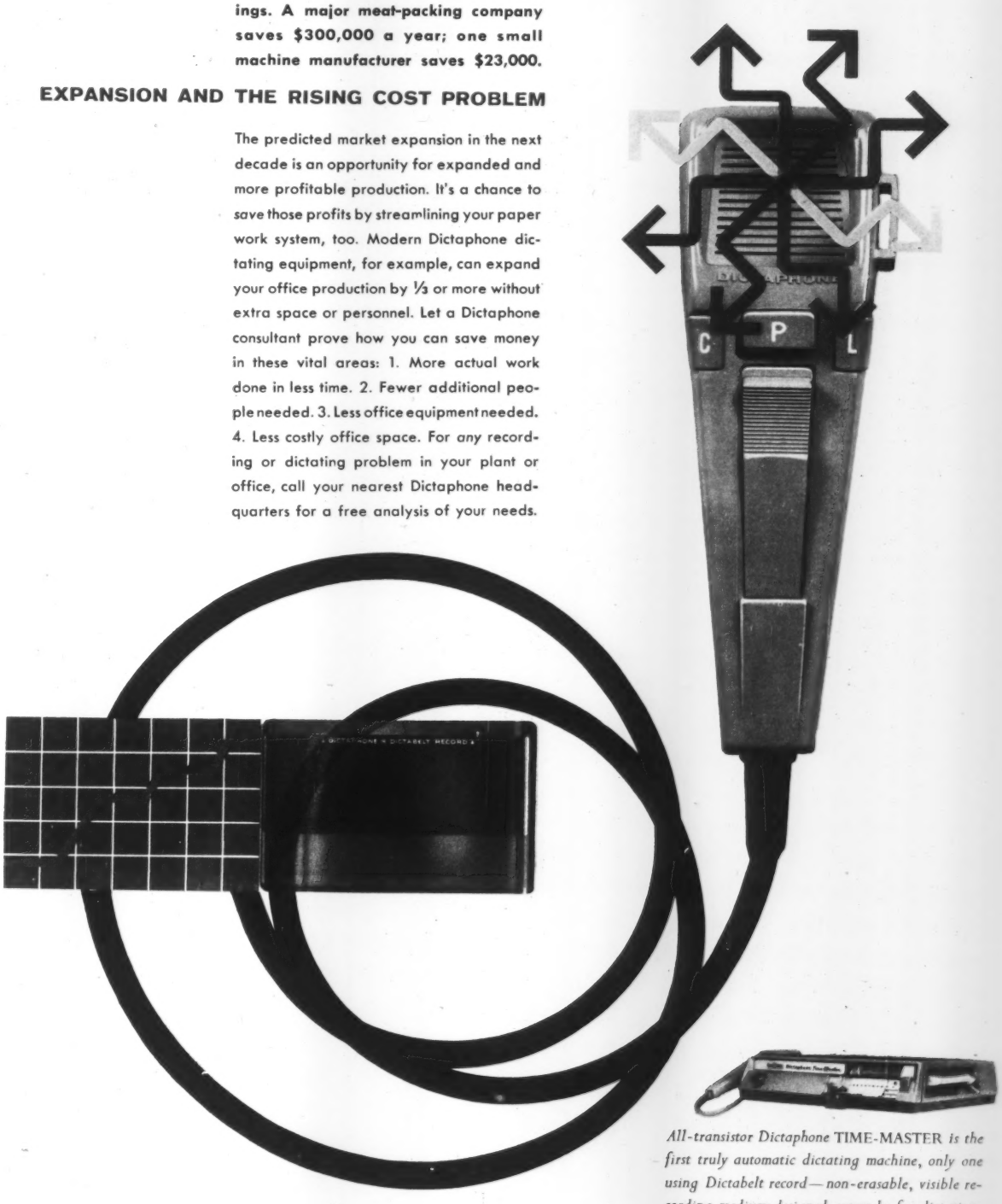
With this new equipment, properly utilized, every officer of the company has a direct concern with the proper functioning of the company's data processing center. Top management will come to adjust the organizational and control structure to assure that the EDP equipment is used to the fullest extent of its capabilities. The results will benefit every segment of the organization.

—F. P. RYAN, *President*, Office Equipment Manufacturers Institute

As you expand for the 1960's, a modern Dictaphone system can mean vital savings. A major meat-packing company saves $300,000 a year; one small machine manufacturer saves $23,000.

EXPANSION AND THE RISING COST PROBLEM

The predicted market expansion in the next decade is an opportunity for expanded and more profitable production. It's a chance to *save* those profits by streamlining your paper work system, too. Modern Dictaphone dictating equipment, for example, can expand your office production by ⅓ or more without extra space or personnel. Let a Dictaphone consultant prove how you can save money in these vital areas: 1. More actual work done in less time. 2. Fewer additional people needed. 3. Less office equipment needed. 4. Less costly office space. For *any* recording or dictating problem in your plant or office, call your nearest Dictaphone headquarters for a free analysis of your needs.



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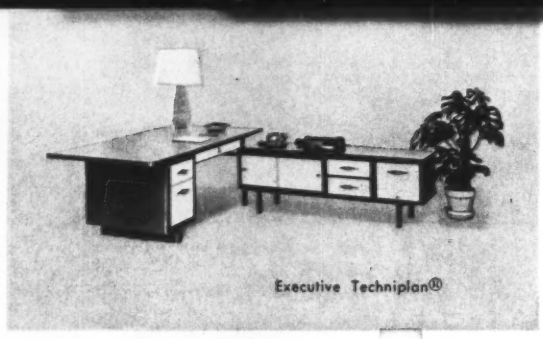

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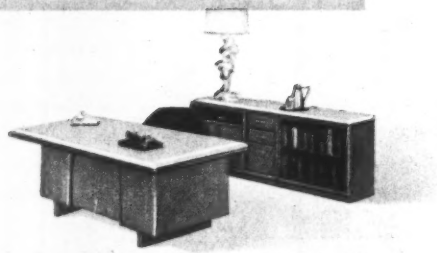

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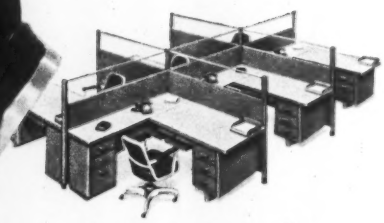

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metal parts company says: "We are working on a departmental delivery slip covering materials moving from one production department to the next. Currently, each department makes out a new one. We were surprised to find that this costs us $7,000 to $8,000 a year."

How systems can help

Companies are making important progress in improving their paperwork by extending their systems work into areas other than the traditional office areas such as accounting. They are discovering that the bulk of the paperwork really is produced in areas not usually thought of as office operations. For instance, a large rubber company analyzed its volume of paperwork and discovered that about 35 per cent involved production work, about 35 per cent was in sales, 15 per cent was accounting, and the remainder was distributed among various departments.

In 55 per cent of the 278 manufacturing companies surveyed, management was able last year to bring about dollar savings in office operations. (See box on page 66 for the savings that were achieved in companies of various sizes.)

The companies attributed their savings to a whole spectrum of specific measures, but most could be described as improved systems and procedures. The one most common measure was improved mechanization. By adding equipment ranging from electric accounting machines to giant computers, the companies report that they were able to release clerical help or at least forestall additions to the staff. One of the most frequently mentioned new installations of equipment was that of punched-tape typewriters for order-processing and billing. (For a description of such an installation, see page 83.)

In improving their systems and procedures, the companies scored savings by eliminating duplicate work in two or more departments, by streamlining the flow of paperwork, by simplifying the work itself before mechanization, and by setting up clerical work standards.

Executives in charge of office operations are making strenuous efforts to develop price tags for the improvements they make. For instance, the controller of an Ohio producer of rubber products reports: "Clerical work measurement alone accounted for savings of $202,000 last year." To bring such a contribution of profits —$202,000—a producer of rubber products would have to expand sales by about $3 million.

Several of the companies surveyed attribute their savings to the elimination of unused records and reports. Increasingly, management is putting the output of the office under the magnifying glass and developing price tags for the various reports that are produced. Management is analyzing its own information needs and is stripping away the overly detailed marginal reports that had no reason but tradition for their existence.

However, not all the companies are looking upon office operations as a simple source of savings. Many companies—particularly the large ones that have installed sophisticated electronic data processing systems—don't expect these new systems to bring noteworthy dollar savings.

Instead, they consider the payoff of the new systems to be better, fresher operating information for management and faster paperwork processes resulting in such benefits as improved customer service, tighter inventory control, and more precise production planning. Says the manager of cost accounting in an Ohio company manufacturing transportation equipment: "Last year, we actually increased our office expenses to achieve better control in manufacturing operations."

Jack Potash, supervisor of EDP Systems Group, Standard Oil Company of Ohio, comments, "If office management could get across the idea that the office can make money for a company as well as cost money, it might be able to convince top management that the office has to have the best tools available."

Disenchantment with new procedures

Nearly one-third (81) of the companies surveyed have found that new improvements (in equipment, methods, layout, and so on) did not work out entirely as expected. Frequently, hard selling by equipment salesmen leads buyers to expect sizable savings that don't pan out, according to the survey respondents.

In 23 of the 81 companies, the

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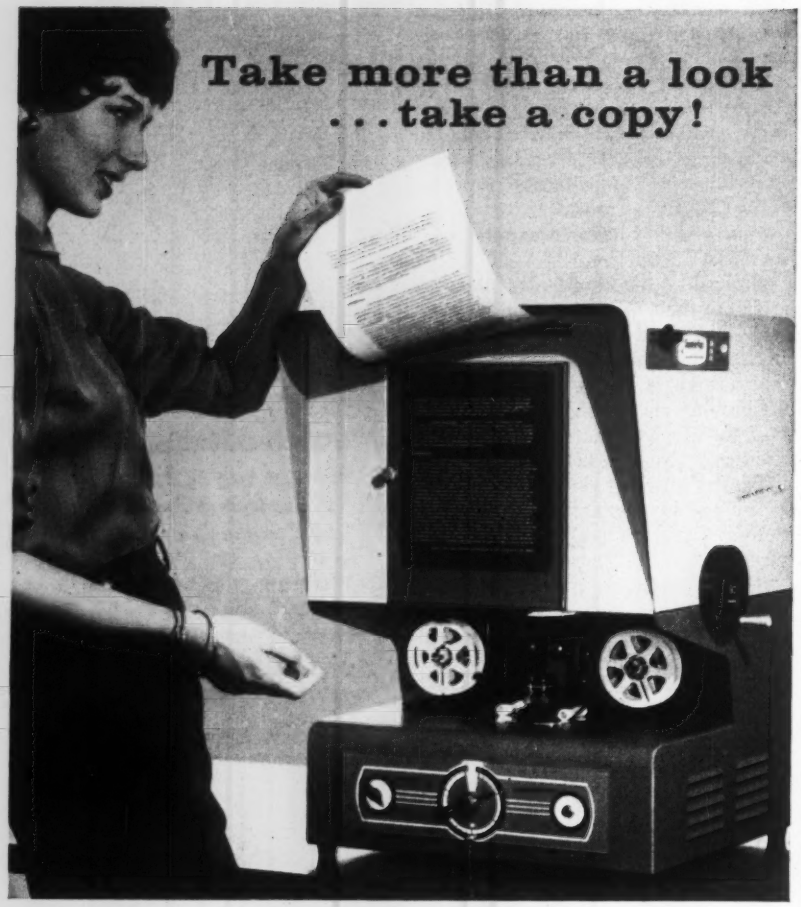

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disappointment involved tabulating (punched-card) equipment. The assistant to the president of a medium-size California manufacturer of defense equipment describes his company's disappointment: "We attempted to use tabulating equipment in our accounting department, but after we replaced it with accounting machines, we were able to reduce costs by 40 per cent. Tabulating equipment is the most 'oversold' product in office equipment."

As with other types of office equipment, it's the misuse of tabulating equipment that results in major disappointments. Several of the 23 office executives admit that they attempted — unwisely — to use it for small-volume operations (such as bill-of-material costing and job-order records) that could have been handled more economically on less high-powered equipment.

Eight of the 81 companies feel that the performance of their new data processing installations has not been as satisfactory as they had expected and six companies express disappointment with computers. Among other things, they were dissatisfied with duplicated forms for order-processing, invoicing, centralized office functions, and teleprinter systems.

More space is no answer

Not all the dissatisfaction resulted from equipment. Five companies had new office layouts which didn't prove out. Says the controller of a Maryland printing company: "We enlarged our office space. It was felt that moving from crowded conditions to more spacious quarters would increase individual efficiency, but it didn't work out."

Sometimes, companies go overboard and ignore functional efficiency for the sake of aesthetics. For instance:

- A large manufacturer of consumer goods installed off-white desks in its company's new building in New York. Since then, maintenance costs have soared, and the desks never look clean.
- An insurance company insisted on custom-built metal desks for its new headquarters building, hailed as among the world's finest. No desk like any used by other companies would quite

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IN A DICTATING MACHINE.....

MILAN, ITALY

Europe's largest integrated electronic manufacturer

FIDELITY MAKES THE DIFFERENCE!

400 secretaries, questioned by a leading magazine about dictating machines, listed fidelity as the most important feature they looked for in a machine.

These experts know fidelity makes the difference . . . to you when you're dictating or listening . . . to your secretary when she's trying to catch every word you said for transcribing. Try the new Geloso StenOtape; you will be amazed at its fidelity. You'll hear yourself just as clearly as you spoke!

"Ease of operation" was the second most wanted feature. Dictating to StenOtape is actually pleasurable. An exclusive relaxed dictation system (no hand mike) takes down everything you say . . . even though you have papers in both hands, or walk about the room. Perfect for conferences, too. StenOtape registers up to 30 feet away, up to 2 hours on one reel of endlessly re-usable standard magnetic tape.

StenOtape is compact, ready for instant travel anywhere in its convenient attache case. Weighs only 6½ lbs. Accurate, jamproof, trouble-free. Best of all, after fidelity and easy operation, is its versatility. StenOtape has dozens of uses: in the office, at home, on the road — for dictation, conferences, sales reports, interviews, phone talks, and more. So versatile, in fact, it's fun to take home; it tapes and plays music, too!

Yes, StenOtape fills the bill on all counts for secretaries who want the best, and businessmen who want more machine for less money. StenOtape, at only $179.95, tax included, saves you money when you buy it, both time and money as you use it.

For FREE PROOF of remarkable StenOtape fidelity, easy operation and other exclusive features, mail this coupon right away. No obligation, of course, but you'll always be glad you did.

FULL YEAR GUARANTEE **Only $179.95** Incl. Fed. Tax

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YES, I would like to hear the difference fidelity makes in the Geloso StenOtape. Without obligation, of course.

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Company .....
Address .....
City .....Zone .....State .....

GELOSO STENOTAPE

do. On the original order for thousands of desks, the company had to pay only a small premium over the price of a standard model. But now when the company wants to buy only a few additional desks needed for expansion, the price is extremely high—for they aren't production models.

• In another company, four-drawer files were used exclusively on the demand of a decorator. Yet, a five-drawer file—only 4⅜ inches higher—holds 25 per cent more material in exactly the same floor space. And floor space costs money.

Several of the reporting companies admit that they over-evaluated new equipment and expected more than it could perform.

If more office executives approached new equipment and systems as does the assistant director of data processing services of a major chemical company in Indiana, there would be much less disappointment: "We accept the fact that new projects must be modified as they are developed and installed, and we never try to convert to the *perfect* system."

Wanted: better service

Nearly half the respondents feel that the office equipment industry could be of greater service to their companies. The most common complaint—voiced by 66 of the 278 respondents in manufacturing — concerned the selling job being done by the office equipment industry.

These executives—most of whom are controllers—feel that equipment salesmen frequently oversell their products, have little knowledge of office systems or accounting techniques, and are not so well informed as they could be on the particular problems of individual companies. Of course, these complaints are certainly not applicable to all equipment producers.

The respondents say that the office equipment industry would be doing a better job if it provided training for operators after new equipment is installed and if it improved the maintenance service on purchased equipment. Executives in the companies surveyed would also like to see more standardization of equipment among various manufacturers.

There is **ECONOMY** in custom-designed business equipment by *LeFebure*

Custom-designed equipment is actually an operating idea expressed in steel. We approach the equipment problem in this way, with a firm belief that the user is far ahead with equipment designed and built to fit a particular operation — in an available space. Certainly, this is more logical than asking the businessman to fit his operation to the equipment that happens to be available. Equipment for posting, sorting, cash handling, billing, reference and filing can all be individualized to great benefit.

Really fine office equipment is designed for the operation at hand — then constructed for long life and excellent appearance. Your whole record-keeping operation must be considered before the first dimension is established.

Equipment is economical or expensive, depending upon how well it functions. Real economy comes from savings in time, effort and space. These economies can obviously be achieved with equipment designed for the requirements of each installation.

Free BROCHURE —

Write today for case histories and literature showing examples of custom-designed equipment.

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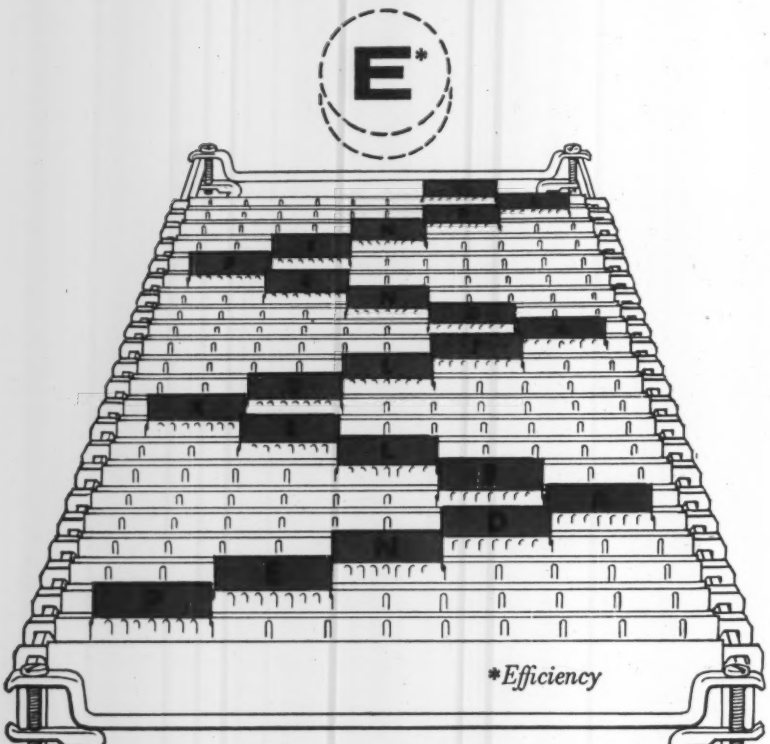
How PENDAFLEX® provides more vitamin E*



It's enriched with exclusive "Keyboard" selection! Helps to cut nagging office costs . . . peps up economy. Pendaflex hanging, sliding folders combat Office Anemia (we call it "tired filing"), too! And file clerks just love Pendaflex's pleasant finger-tip control . . . lets them file better, fast!

Start on the path to better office health today! Mail the coupon for a generous free file analysis.

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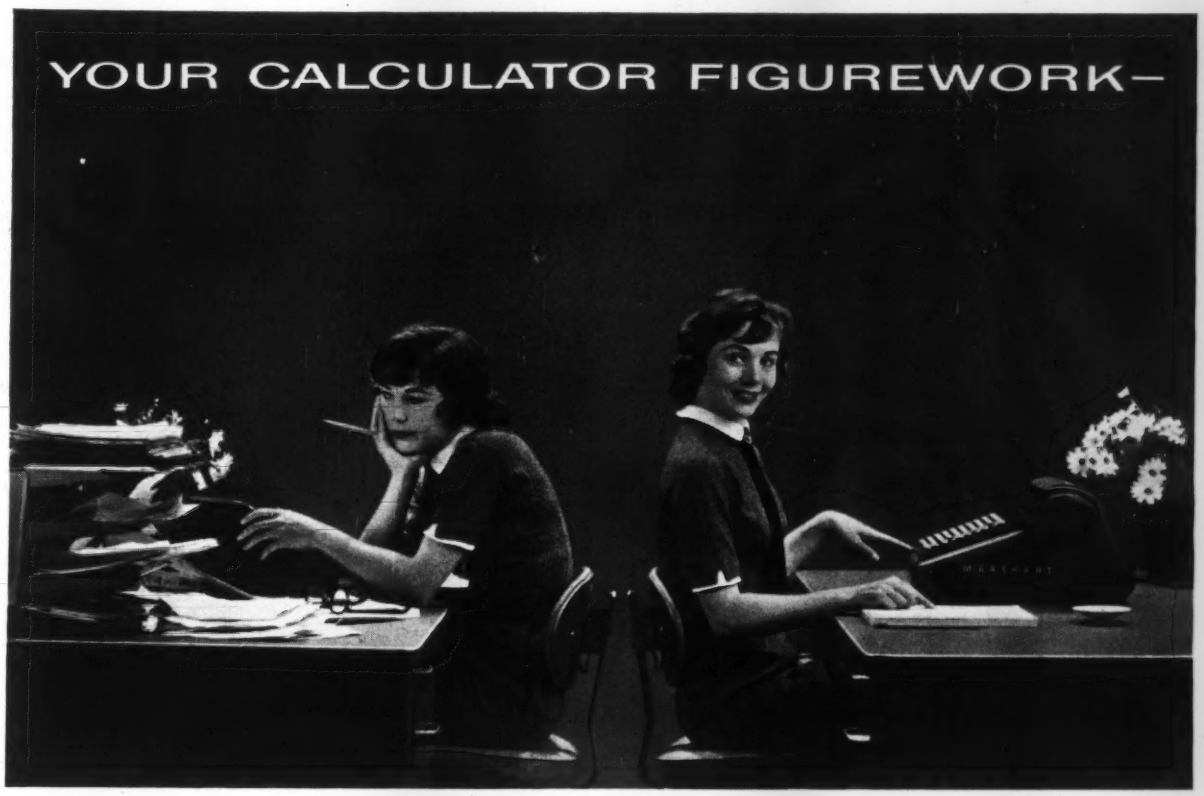
TODAY'S OFFICE

Here are some specific ways the respondents say that equipment producers could give better service:

- Equipment producers should provide machines to fit the existing company systems and not require us to redesign our systems to fit their machines.—*Treasurer of a Rhode Island manufacturer of fabricated metal products.*
- The equipment manufacturers shouldn't oversell their equipment. Surprisingly few salesmen are really familiar with the potential of their equipment or are adequately informed in systems work. Smaller companies can't afford systems departments, and, therefore, look to the equipment companies to furnish the know-how.—*Controller, New York textile products company.*
- Companies should provide better representatives—men willing to spend sufficient time and effort to adequately develop practical applications for their equipment. They should forget high pressure and dramatic sales efforts entirely.—*Systems manager, North Carolina tobacco products manufacturer.*
- They shouldn't sell machines when the application doesn't justify the sale. Tabulation equipment salesmen are the worst.—*Assistant to president, California producer of defense equipment.*
- Salesmen are too often interested in making a sale whether I need the equipment or not, and they don't always understand systems as they are supposed to.—*General office manager, Pennsylvania food processor.*
- Equipment companies should bring new developments to our attention by means of bulletins describing applications, thus reducing the number of salesmen's calls.—*Methods supervisor, New York chemical company.*
- The salesmen should be more realistic about possible limitations of their equipment.—*Assistant director, data processing services, Indiana chemical company.*
- Equipment producers should convince top management that office activities are just as important as production, sales, or engineering.—*Controller, Cleveland producer of electrical machinery.*

Some of the respondents would like



stop and go or steady flow?

Swift, steady figuring is easy with the Marchant ***transflo*** *—a new kind of automatic calculator that takes "backtracking" out of multi-step figurework*

The unique back transfer mechanism of the new Marchant ***transflo*** is designed to help any calculator user perform figurework with greater ease, speed and sureness than ever before, particularly problems requiring several consecutive operations.

One touch of the *transflo's* back transfer key instantly and in a single cycle puts an intermediate result of a multi-step problem back into the keyboard dials, ready for use in the next step . . . without the tedious re-entry of each digit by hand.

By moving figures swiftly from dial to dial, the ***transflo*** virtually eliminates stop-and-go scratch-pad jotting and minimizes chances for operator error. Figurework gets done in much less time. New savings are made.

To fully appreciate the ***transflo***, you have to watch it perform. See a demonstration on your own figurework by calling any Marchant office. Or, send the coupon.

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Modern Management Counts on Marchant

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Send me more information about the new ***transflo*** calculator and how it can give us faster, more accurate figurework. H-9

NAME_____

PLEASE ATTACH COUPON TO YOUR BUSINESS LETTERHEAD

to be able to turn an independent agency—like those that rate consumer products—for an objective assessment of the advantages and disadvantages of various pieces of office equipment.

Says the controller of a Cleveland manufacturer of machinery:

Over the years, the thing I have found most useful to look for is the good salesman who is a good systems man. I find there is less importance and less distinction between the different kinds of machines that can do a job than there is in methods of processing the paper up to the machine point and after the machine point. That is more important than the processing within the machine. The manufacturers talk about milliseconds and so on, but it is very difficult to see any real distinction within the machine scope itself. However, there is a tremendous difference in the ingenuity of the people who develop the paperwork processing to get it ready for the machine, and that is basically where we save most of our money in office operations. I have noticed in many office equipment companies a distinct lack of ability in the young salesman to develop a paperwork system.

Management's also to blame

But the fault is not all on the side of the equipment producers. Says a spokesman for one of the major producers of office equipment:

Top management in most companies don't know what they want from the office. If they knew exactly what facts they need to make their own decisions, they would see to it that office operations were set up to provide these facts.

No one within the typical company seems to have sufficient knowledge of what goes on within the organization or to be able to transmit the information to an outsider.

We find this: If we are talking with top management, they tell us what they think is happening in an operating department. Possibly that is the way things used to be when they were doing it, and possibly they really think it's still being done that way. But when we go back into the department and talk to people in charge, we find out completely different things.

And again, the people within individual departments do not have an over-all concept. They are familiar with their own operations, but they don't know what goes on before or after in the entire paperwork process.

Says Richard W. Reynolds of F. W. Lafrentz and Company, New York accounting firm:

Corporations are being merged or acquired to meet the market challenges of tomorrow from a position of greater flexibility and strength. Fast-developing technological advances and organizational redesigns are imposing on management burdens which are alarmingly difficult to carry. Management cannot make decisions without proper information, and proper information cannot be given to management without a well-designed, efficiently coordinated data information flow system. It is only very recently that management began to suspect that it had a serious problem in this area.

It takes quite a long time to work out the proper design of an efficient data information flow system. The study must include a thorough analysis of present and future corporate objectives and operational plans. It must determine just what information for decisions will be needed up and down the line of management. Only then can management logically make the subordinate studies of proposed corporate organizational designs, of data processing equipment available, and of methods for applying such equipment to the information system.

The amount of time and high-priced skill that is necessary for these studies still tends to keep most companies from taking the bull by the horns. However, it is most likely that the victors in tomorrow's competitive market will be those corporations that have full decision-making information available at all times as the result of an efficient data information flow system. The development of these efficient data information flow systems will have been some expensive years in the making.

New Approaches to Office Operations

Here is how some companies are integrating their paperwork procedures and realizing company-wide benefits through improved office operations.

ALL across the nation, companies both big and small are moving fast to take advantage of the new advances in data processing equipment. And alert managements are increasingly aware of the need for a new look at paperwork—and the folly of mechanizing outmoded procedures.

There is also a growing recognition of the importance of approaching office operations with an integrated viewpoint. Management is striving to set up new procedures that cut across departmental lines, eliminating duplicated work and setting up new company-wide systems.

Companies are discovering that one of the most fruitful approaches to the total systems concept is through sales order processing. Since it involves sales analysis, inventory control, production scheduling, invoicing, and shipping, it is proving one of the most popular starting points for improving paperwork. A recent survey by the National Office Management Association among nearly 4,000 companies revealed this was the most popular application for IDP equipment.

continued on page 83

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DR 99

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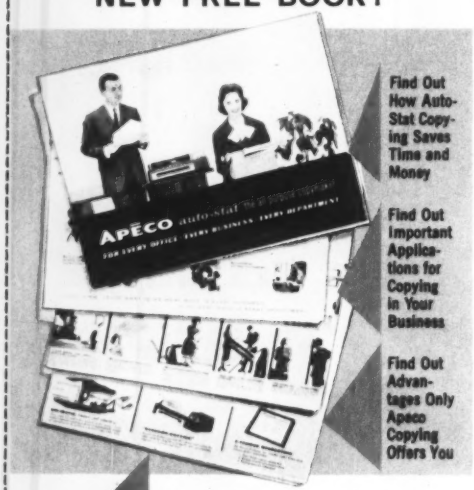
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The Only ONE-STEP Copymaker that COPIES EVERYTHING

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Why settle for part-time copying methods when it is so easy and fast to copy everything with an Apeco Uni-Matic Auto-Stat? Just one step "In and Out" will copy letters, invoices, receipts, charts, blueprints, bids, reports, quotations, photographs, etc.—every paper, every color—one or both sides. You get clear, sharp, black on white copies—easy to read—error-proof. It is handsome, compact, and lightweight. Offers hundreds of time and money saving uses for every business at a price well within the budget of even the smallest firm.

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● Compare this big, comfortable, fully-adjustable Cosco executive posture chair with others costing much more. You'll find it has everything! Cosco de luxe features include dual-contour molded foam rubber seat; foam-cushioned backrest, upholstered front and back; foam-cushioned armrests; quiet, long-wearing nylon bearings . . . *six comfort adjustments.* It's an imposing chair, enormously comfortable. And it's a greater value because all parts, except casters, are manufactured by Cosco, permitting precise quality control and greater economy for you. A free demonstration will prove that this solid Cosco chair is a solid value *for you.* Call your Cosco dealer now! *You'll find him listed under Office Furniture in yellow pages of phone book . . . or write for free color catalog.*

Model 28-TA, 25-S and 27-LA at right are priced with all-Naugahyde upholstery.
Zone 2: Texas and 11 western states.

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Model 28-STA as illustrated with combination upholstery ..... $72.95 ($76.95 in Zone 2)

Model 28-STA with all-Naugahyde upholstery, $67.95 ($71.95 in Zone 2)

Model 28-TA Executive Chair $59.95* ($63.95 in Zone 2)

Model 25-S Secretarial Chair $42.95* ($46.95 in Zone 2)

Model 27-LA Conference Chair $39.95* ($43.95 in Zone 2)

TODAY'S OFFICE

Fast paperwork speeds shipping

Orders received as late as 2 PM are now shipped the same day under a Connecticut company's new IDP system.

JOLTED by their competitor's full-page ads announcing speedier service on off-the-shelf items and aware that a rising volume of orders was completely overwhelming its manual orderwriting system, top executives at Burndy Corp. handed down the following edict: Develop a 24-hour order filling system.

This was no easy assignment. Order writing alone took five to eight days at the billing unit at company headquarters in Norwalk, Conn. The delay in processing was due to both an

BEFORE: *A billing clerk had to type manually all the information on every sales order. This produced only shipping and invoicing forms. Data for accounting and other purposes had to be prepared in a separate operation.*

STEP 2: *Battery of Flexowriters producing forms for shipping and other purposes, plus five-channel tape for data processing. For control purposes, a different color tape is assigned to each operator. About 85 per cent of the information that was formerly typed is now entered automatically on the forms from the cards. The operator only enters the variable data, (in a different color, so that it can be easily checked).*

STEP 1: *Under the new system, most information on most orders is repetitive. This information is ready for use on five-channel edge-punched cards which are inserted in any one of a battery of Flexowriters. For each order, the clerk selects cards for the customer and items called for. The file holds pre-punched cards for 3,500 customers and 8,000 items.*

STEP 3: *This IBM machine converts the tape from the Flexowriter into punched cards used for inventory control, invoicing, sales analysis, accounts receivable, salesmen's commissions, and financial controls.*

More that's new
More that's profitable
More reason than ever
to attend

1959 NATIONAL BUSINESS SHOW

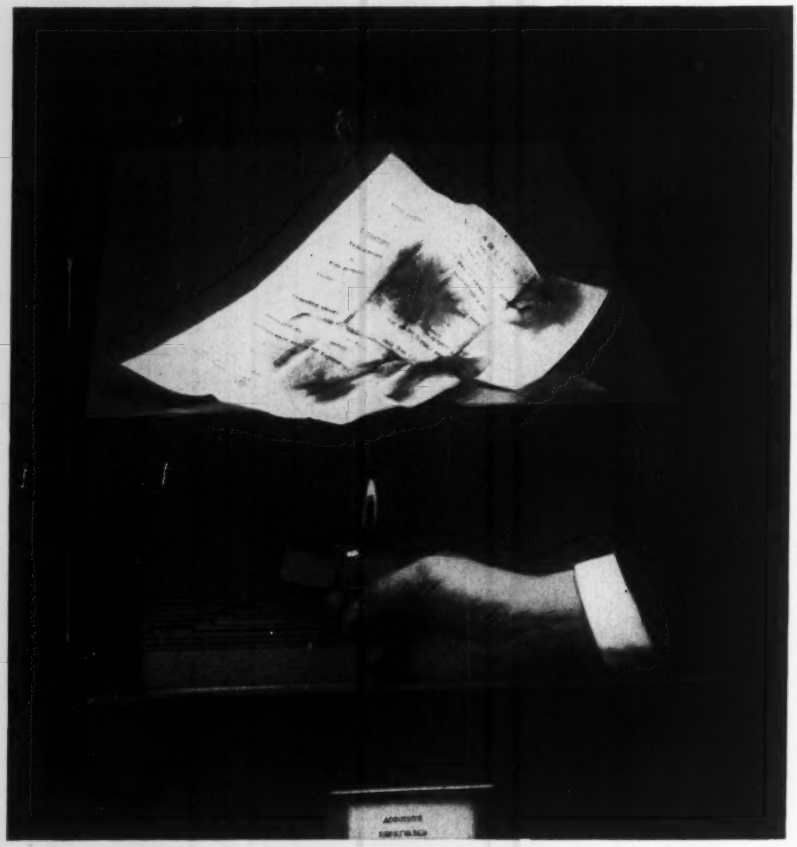
The largest and most important show of its kind, this year's National Business Show will be of more value and will offer more of interest to business executives than ever before.

Held as usual in the New York Coliseum, the world's greatest showcase, it will present the products and services of hundreds of the most progressive companies serving the business community. Owners and executives . . . 150,000 of them . . . will attend. Why? Because, under one roof, at one time, they can find the answers to many vexing business problems. They will learn of the latest in business communication techniques, see new reproduction equipment and methods, find new ways to improve their business management operations.

Plan now to attend the 1959 National Business Show.

COLISEUM
Columbus Circle, New York, N.Y.
October 19 through 23
1-10 p.m. daily

For information, telephone OXford 7-7142 or write National Business Show, 530 Fifth Ave., New York



Ordinary metal file conducts heat...papers burn.

Unique new file stops fire... really protects records!

New Mosler insulated files represent a new concept in records protection. They combine a high degree of fire-resistance with five exclusive filing features.

In an ordinary file, the heat of a fire can be just as destructive as the flames themselves. It turns valuable papers into useless ashes. In a Mosler insulated file, unique inner-wall insulation keeps papers safe even though outside temperatures reach 1700°F. Find out about this low-cost way to preserve your essential papers. Write today for a free copy of the booklet, "New Concept in Record Filing."

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World's Largest Builders of Safes and Bank Vaults... Since 1848

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☐ Please have a Mosler representative call.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

accumulating backlog and the fact that the manually written order passed through several operations, such as verification, keypunching, and analysis, before it was sent to the shipping department.

The two men who were handed this hot potato not only met management's primary demand but also accomplished the following:

- Four order expediters were eliminated (now, customers don't get a chance to inquire about orders).
- One order-logging clerk was reassigned elsewhere.
- The number of clerks in the order cancellation section was reduced from four to two because of fewer cancellations.
- The staff of order-writing clerks was cut from eight to six, while the orders handled rose 10 per cent.
- Two girls formerly operating machines that created punched cards for stock control, sales analysis, and other records were transferred to writing orders, because the new machinery automatically makes a tape that is fed to an operatorless puncher.

Looking for the best

Isaiah Eisen, systems manager, and Paul Mastroni, systems analyst for this $24 million (sales) maker of electrical connectors, started by examining all possible avenues to mechanization. They discovered that a battery of punched-tape-reading-and-producing typewriters was the best answer to their problem. The punched-tape typewriters cost less than a more elaborate system and could be delivered in weeks instead of months.

To check their vote for the punched-tape typewriters, Eisen and Mastroni visited installations at Allied Chemical Corp., and the New Departure Division of General Motors Corp. When they got back, they ordered the first of six machines, costing a total of $20,000 with accessories.

Since other parts of the paper flow at Burndy were already mechanized, the system had to mesh with other machines. This key restriction was on top of the primary requirements to:

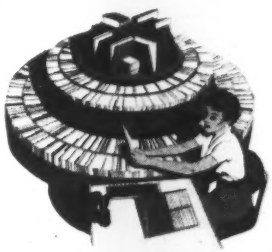
- create a usable shipping order by direct typing
- provide punched cards, as a by-

ACME VISIBLE

PUSH BUTTON MOTORIZED ROTARIES

bring the work to the workers!

Many units are expandable and may be supplied either manual or motorized with compartment size and spacing to fit individual requirements.



Finger-tip control brings the record to the individual at working level—eliminates personnel movement and handling fatigue. Saves time of locating or filing—increases production. With all of the records easily accessible within the reach of several operators, the same personnel can accomplish more, easier and faster with greater coordination and less duplication of effort.

Acme rotaries provide tremendous record capacity in minimum space. They can save up to 50% of floor space for a comparable number of records.

An Acme representative is nearby, ready to give you all the facts about these modern, space-saving and work-saving rotaries.

Application for many types of records:

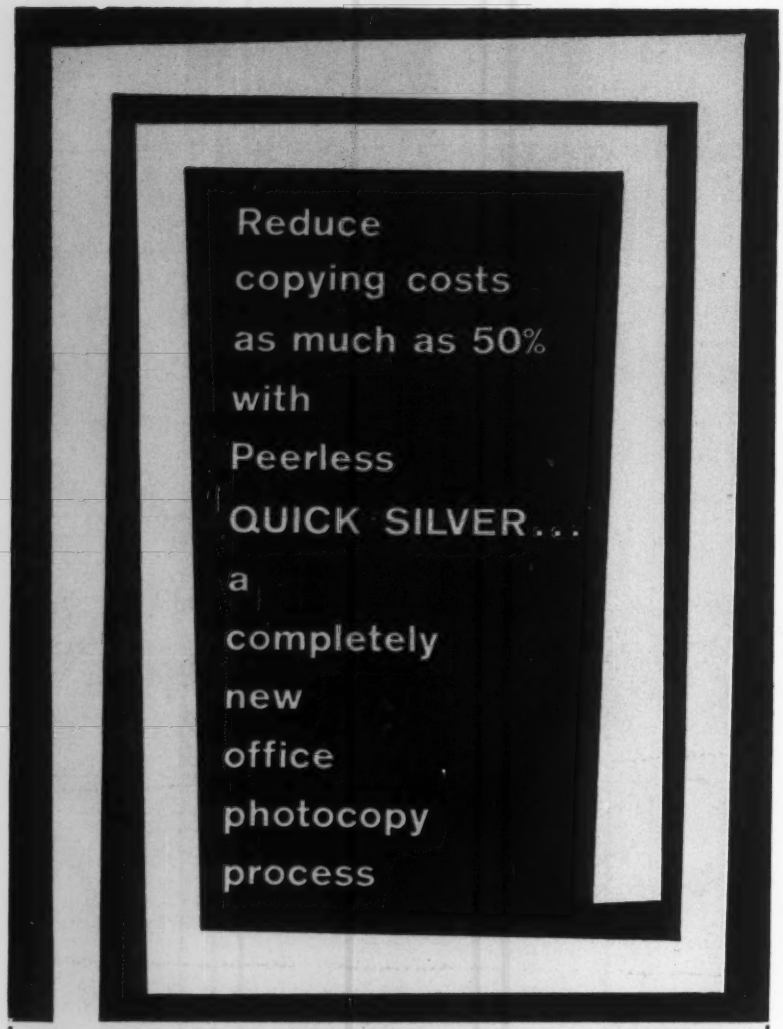
INDUSTRY service order dispatching
GOVERNMENT inventory control
TRANSPORTATION routing and reservation
UTILITIES subscriber records

ACME VISIBLE RECORDS, INC. • Crozet, Virginia

B-959

We would like more information on rotaries for _____ records.
(No. of records)
To be filed
☐ Individually
☐ In books

Company_____
Address_____
Attention_____
City_____ **Zone**____
State_____



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PEERLESS

Gentlemen:

Please send me more information about QUICK SILVER, the completely new office photocopy process which:

1 — makes single copies at only 5 cents each
2 — makes an unlimited number of copies from one negative
3 — makes all copies of equally good quality
4 — eliminates peel-apart and throw-away sheet
5 — is available as a combination unit or as a separate processor adaptable to your own copying machine
6 — has no copy limitations

NAME_____ TITLE_____

COMPANY_____

STREET_____

CITY_____ ZONE____ STATE_____

DR-9

product, for invoice writing, posting of stock records, preparation of orders-received reports, and for back order control.

The new system, as shown in the photos, meets the requirements so well that an order for an off-the-shelf item received before 2 P.M. is shipped the same day.

Of course, an IDP (integrated data processing) installation similar to Burndy's can produce many benefits in addition to speeding up order handling. Companies of all sizes report that they are able to cut office costs, reduce errors, and produce better control information for management faster through IDP.

The key factor in IDP—which can be used with or without an electronic computer—is that information is recorded by hand only once. Manual key-punching—whether the keys are on a typewriter, billing machine, or tabulating equipment—is the most expensive of clerical operations.

Through the use of IDP equipment, which is activated by punched paper tape, tabulating cards, or edge-punched cards, information can be transferred from machine to machine or from the IDP media (cards and tape) to printed copy automatically.

The favorable conditions

Although there are no rigid rules about the size or type of company that can best use IDP, certain conditions in a company do make an installation more economical. For instance, if most products are standard stock items, then a moderate volume of orders could justify IDP. However, if most of the product line is made up of custom-made items, then a much larger volume of orders would probably be necessary. This is because one of the key advantages of IDP is the retention and automatic processing of standard product information.

The pattern of customer orders also plays an important part in any decision to go to IDP. If orders are fairly frequent and if they come from the same general group of customers, this is a factor in favor of IDP, for again the benefits of automatic handling of common data are obvious.

continued on page 89

Cost Cutting Ideas for Your Office...

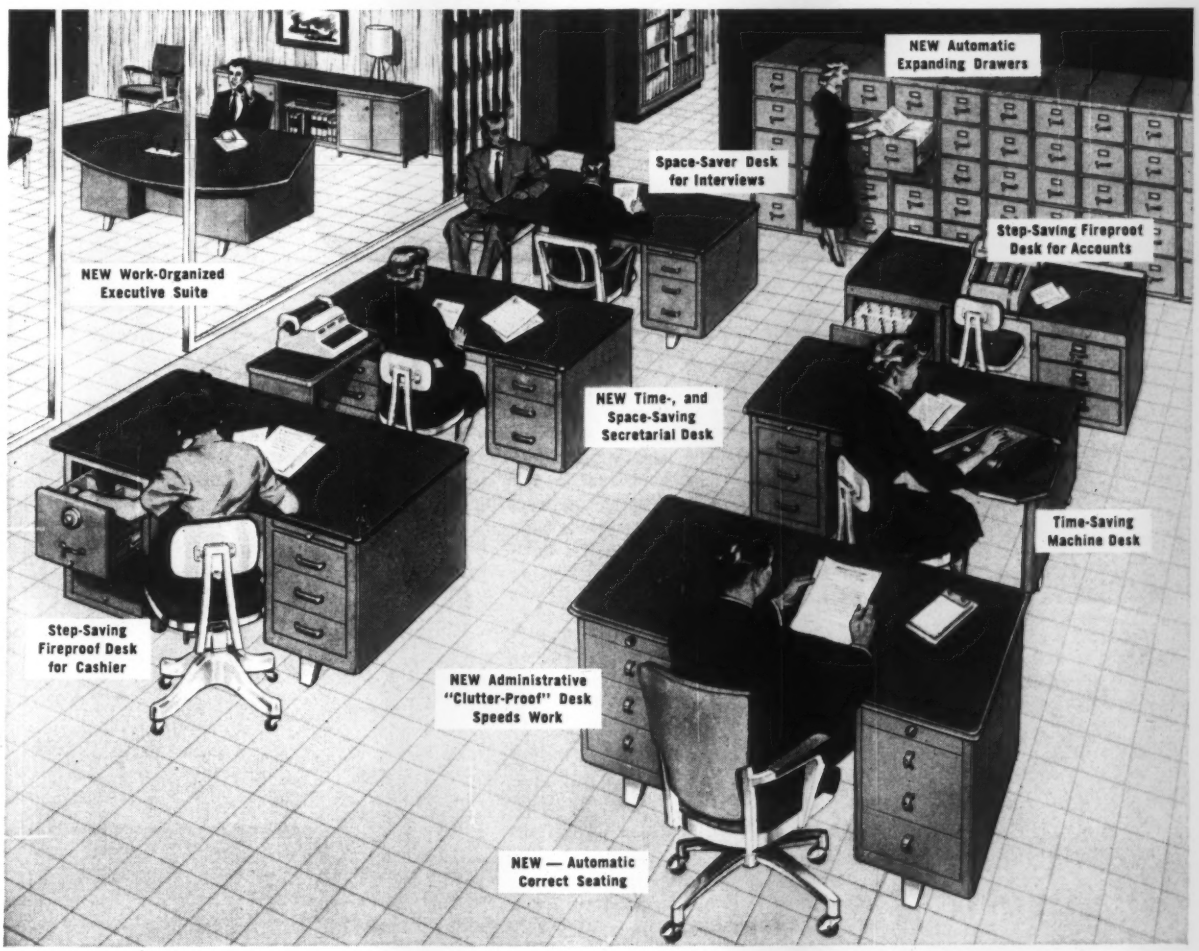
COST REDUCTION, a vital problem in all divisions of a business is nowhere as challenging as in the administrative departments. Office costs, having trebled during the past decade, are today *of primary concern* to top management.

It is in the record that since 1899 Shaw-Walker has been equipping business with "time-engineered" office facilities as inventive and ingenious as American production techniques, — that Shaw-Walker equipment and systems *have cut office costs*, saved floor space and made offices more livable.

For today's *cost-conscious* management Shaw-Walker "time-engineering" research has now produced — The work-organized "clutter-proof" desk; Automatic expanding file drawers; Step-Saving Fire-Files and fireproof desks that protect records at point-of-use; Labor-Saving equipment and systems for tape handling; Error-Proof filing systems; Automatic correct seating chairs; Time-Saving payroll plans; and Numerous Other Devices that facilitate recording, filing and finding of records.

Some of these "*cost-cutters*" are pictured here. All are in the 252-page Shaw-Walker Office Guide.

Throughout, descriptions plainly state economies you can expect from Shaw-Walker "time-engineered" equipment and systems. *Free to Management when requested on business letterhead. Write Shaw-Walker, Muskegon 56, Michigan.*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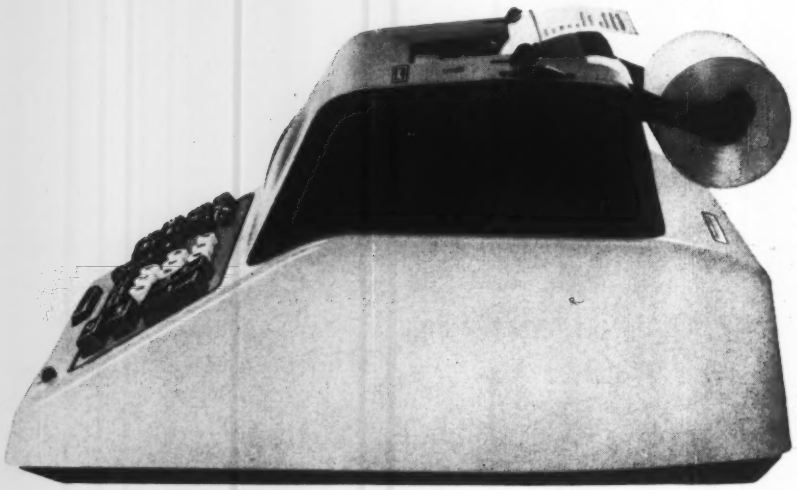
The Olivetti Divisumma 24 combines in a single machine the advantages of a super-automatic high-speed calculator and a high-capacity adding machine. And, because no business calculation is complete until recorded on paper, the Divisumma 24 provides a clear, logical printed tape of all steps in each calculation. All entries and results, whether for addition, subtraction, division or multiplication, are identified by appropriate symbols, so the tape can be filed with work sheets and quickly checked at any future time.



The Divisumma 24 is the only printing calculator with a memory. This exclusive feature automatically retains a constant, stores figures for later use, and eliminates mistakes due to manual re-entries. Separate phases of a problem may be combined into a single calculation, saving time and minimizing the possibility of error. The Divisumma's product re-entry key allows multiplying three or more factors without manual re-entry or pre-setting.

divisumma 24

divisumma 24

The Divisumma 24 is noted for sturdy construction and trouble-free performance. It has a single ten-key keyboard, designed for simplicity and speed, and most office workers can learn to operate it in thirty minutes. Because it's so easy to operate and so versatile, the Divisumma 24 gets full usage all during the working day. It can handle figurework associated with purchasing, production, payroll, inventory, sales, billing and accounting operations. (The Olivetti Tetractys is a dual-register version of the Divisumma 24, with duplex advantages.)

olivetti

The Divisumma 24 is one of 14 Olivetti office machines now used by American business. Each offers exclusive time-saving features. There is usually one machine that will fit your particular requirements as if custom-made. There are Olivetti dealers and service facilities in every major city. For information, write Olivetti Corporation of America, 375 Park Avenue, New York 22, N. Y.

divisumma 24

TODAY'S OFFICE

Computer brings better service to customers

Order processing is the first long step toward the goal of "total systems" at The Carborundum Company.

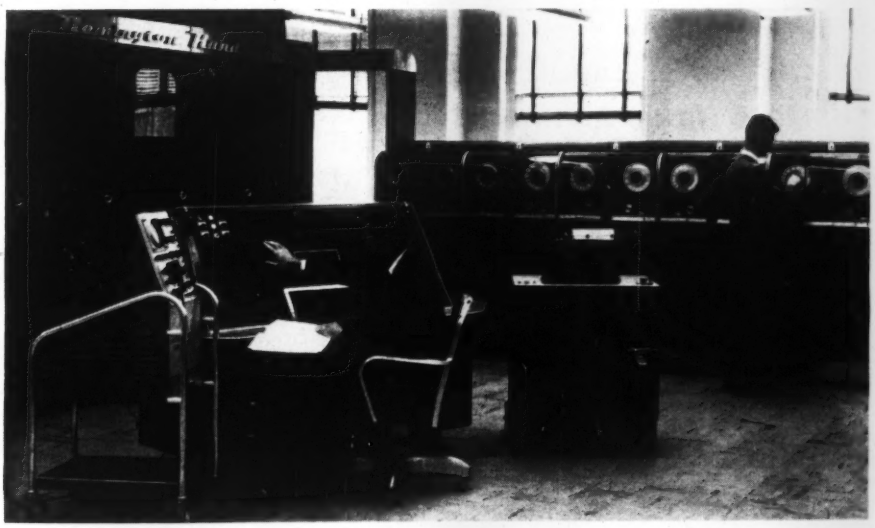
THE Carborundum Company of Niagara Falls, N.Y., is a good example of the way order processing can be handled in a large company ($110 million sales) on a high-powered system. The company, which manufactures abrasives and refractory products, is noted for its "total systems" approach. This means the analysis of the total flow of information throughout the company—not merely the study of how such functions as accounts receivable, invoicing, or sales analysis could be made more efficient.

After a searching analysis of its entire data processing system, Carborundum concluded that within a few years corporate growth could be expected to swamp the conventional methods then in use. Result: the installation of a large-scale Univac electronic data processing system, which forms the core of a wire network that will eventually connect all major sales offices and warehouses.

To begin with, three of the company's dozen divisions were chosen to develop the new system. These three divisions alone receive 1,000 orders a day and handle thousands of products. Many orders are filled from branch office warehouses. Others have to be filled at the plant if the items are not stocked locally, are out of stock, or are a special job.

The initial steps following the receipt of the sales order are similar to those in the Burndy installation described before. Carborundum keeps prepunched paper tapes containing master customer and product information. The tapes are run through punched-tape typewriters, and clerks

continued on page 92



CHECK POINT: *Programmers check the giant computer which is used to process sales orders and schedule production at The Carborundum Company, Niagara Falls, N.Y.*

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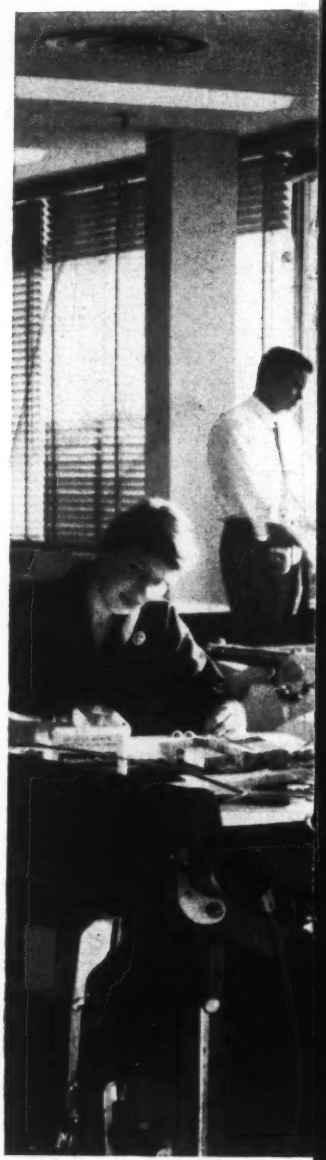

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When your secretary makes copies right on the spot, instead of 'way down the hall or up the stairs, you keep all the savings an office copier gives you over typing. No 24¢ subtracted for each 10-minute trip to the copier and back.

As systems men figure it, these savings in secretarial "travel time" alone can pay for each department's $99.50 Verifax Bantam Copier in a month or two.

What's even more important to management, Verifax copying fully proves itself the valuable aid it is expected to be. Letters, orders, reports — any of the myriad items handled daily by all departments—are copied fast as needed. Everyone enjoys all the wonderful Verifax short cuts, such as answering mail without dictation and typing. Unique systems applications bring remarkable savings to paper work routines.

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Despite its low price, the new Bantam is a true Verifax Copier in every sense. Simple to operate. And so trim and compact you will find room for one in the smallest office.

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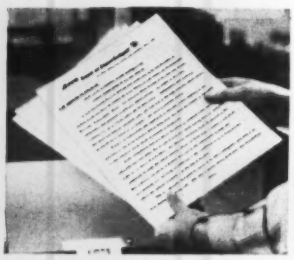
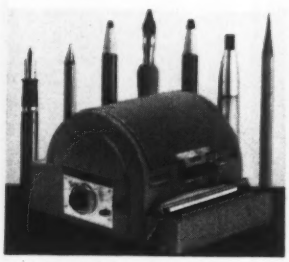
Price shown is manufacturer's suggested price and is subject to change without notice.

Kodak Verifax Bantam Copier outperforms copiers costing up to 4 times as much!

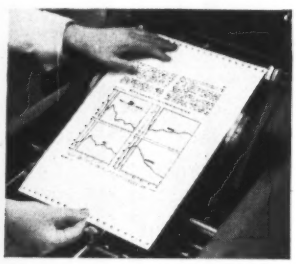
Makes 5 dry, clean, white copies in 1 minute for 2½¢ each. Verifax copies can be made on one or both sides of bond-type paper, card stock, printed office forms.



Verifax copies are sharp and clear . . . easy to read—have look and feel of a good letterhead. And they'll last as long as any typed record, won't fade.



Write with anything—you can copy ball-point, crayon—what have you—as easily as typed data. Even those purplish duplicator copies and rubber stamps are a snap!



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add only the variable information pertinent to the particular order.

As the typewriter in the sales office produces the sales order form, it also turns out a paper tape that is used to transmit the order by wire to the company's head office at Niagara Falls. There a paper-tape-to-magnetic-tape converter gets the information in form for the computer.

The computer edits the incoming orders and matches the incoming tape with the master inventory file's complete information on every product stocked at a dozen warehouses and several plants. After finding the needed items, the computer prepares orders for the warehouses or plants and records the action against the inventory record so that it is perpetually up to the minute.

More than fill orders

The computer also places orders with manufacturing for items not in stock and matches the daily order with the master product file in order to produce both the necessary manufacturing specifications and pricing information.

Each day's orders are added to the in-process file, along with information on how they are being handled. Similar information on orders not filled at the original sales office is automatically put on paper tape and transmitted to that office for the customer's information.

When orders are shipped, each shipping location sends by Teletype a short message to the computer to close out the order. This clears the computer's file of in-process orders of finished transactions.

Next, the computer processes the completed orders for billing by extending prices, computing discounts, taxes, transportation charges, and finally arriving at the total invoice, which is printed out and mailed to the customer.

One leg up

This order-processing system, which substantially reduced the time involved, is a big first step in the company's plan to integrate the flow of operating information through the entire organization.

Meanwhile, the up-to-date inventory information, coupled with rapid data handling, makes it possible to cut order-entering time noticeably and improve customer relations.

But of even more significance are the benefits in management control resulting from the availability of fresh data for quick analysis. Says President Clinton F. Robinson: "Reports on incoming orders, inventory, order backlog, and sales will be available as automatic extensions of the integrated system. And we are just beginning to scratch the surface in these areas. Such reports—with analysis in depth, where depth is required—will provide an insight into our operations never before possible."

Small "brains" for the small company

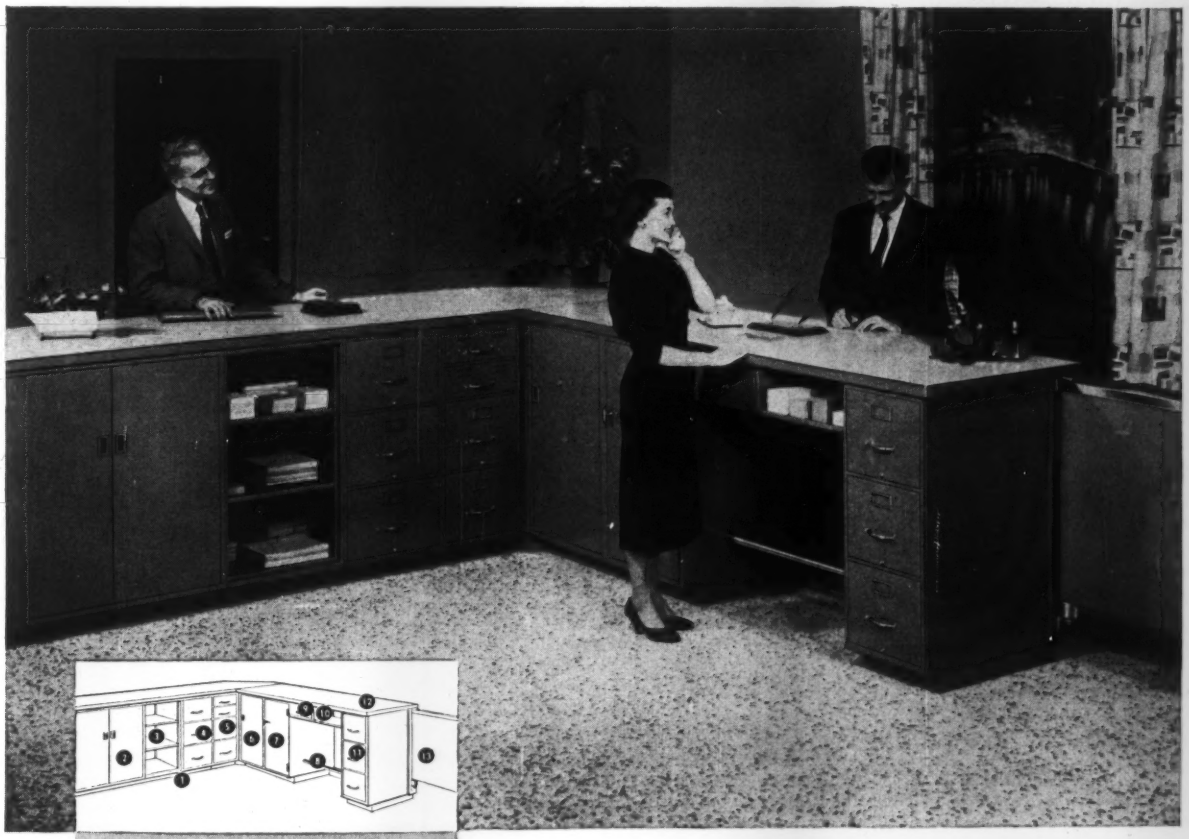
Electronic data processing is not just for the giants, as this small company has discovered.

BIG business has moved quickly—sometimes too quickly—to take advantage of electronic computers. But small business, where the paperwork problem is even more serious, has generally assumed that computers were not for them. A recent study by the New York State Department of Commerce shows that in small companies 65 per cent of the paperwork dollar is wasted.

Among the smaller companies that are moving ahead to take advantage of new desk-size computers is Economy Forms Corp. of Des Moines, Iowa, a $5 million (sales) manufacturer of steel forms for use in concrete construction. Although the com-

New Filing-Storage Cabinets

double beautifully as a reception counter!



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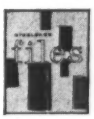
6. Receding door storage cabinet
7. Storage cabinet with lock
8. Foot rest
9. Cash drawer
10. Open storage space
11. Three-drawer letter file
12. Textolite top, stainless steel edge
13. Entrance gate

Created for you — to help you give better service to the people who visit your office. You'll like the way they tastefully separate the office from the outer entrance and blend smoothly with other office furniture. Many companies use them internally to separate one department from another. The Textolite top can be ordered in any length, combined with infinite arrangements of cabinets and drawers. Another thoughtful contribution to office efficiency by Steelcase Inc., Grand Rapids, Michigan. In Canada: Canadian Steelcase Co., Ltd., Don Mills, Ontario.



THE COMPLETE STORY *in this illustrated brochure, yours on request. Write Steelcase Inc., Dept. D or ask your Steelcase dealer. See the Yellow Pages — under "Office Furniture" classification.*

STEELCASE INC

SEPTEMBER 1959

Special Report • 93

pany is relatively small, it has complex payroll and distribution problems.

The many sizes of forms and accessories produced by the company require intricate inventory control and production scheduling. Service to customers includes layout and requires the company's engineers to specify forms to meet the needs of specific jobs. This, in turn, means that the company must maintain an inventory of these forms in its warehouses across the country. There are approximately 200 standard items in the company's product line, but specialty items, which are added from time to time, increase the figure somewhat.

About half the company's 300 employees are engaged in production. However, its complex incentive pay program, which includes bonuses, makes the company's payroll problem more nearly comparable to that of a manufacturing company with several times as many employees.

About six months ago, Economy Forms' management decided to install an integrated electronic data processing system to handle its many and varied problems.

The reason for it

Why did the company's top management think they needed electronic equipment? There are thousands of prosperous and apparently well managed small companies which get along without such help. As a matter of fact, Claude D. Brown, the Economy Forms' chief accountant, admits, "Before we made this move, we thought we were doing all right without electronic equipment."

The reason for the decision was that W. A. Jennings, the company's president, had been waging a battle for 25 years to get needed information about the business. Generally, he found it wiser to make an educated guess and act rather than wait for a report.

This informal method of control was acceptable until the company's real growth started a few years ago.

"If this growth is to carry on," says Claude Brown, "our top management needs administrative reports based on data only *hours* old. Reports of what happened last month won't arm management with the data they need today."

When the electronic computer was installed, top management had in mind as its ultimate goal a completely integrated company-wide system for the handling of all operating data, which would replace the previous system of marginally punched cards and accounting machines.

Increasing the work load

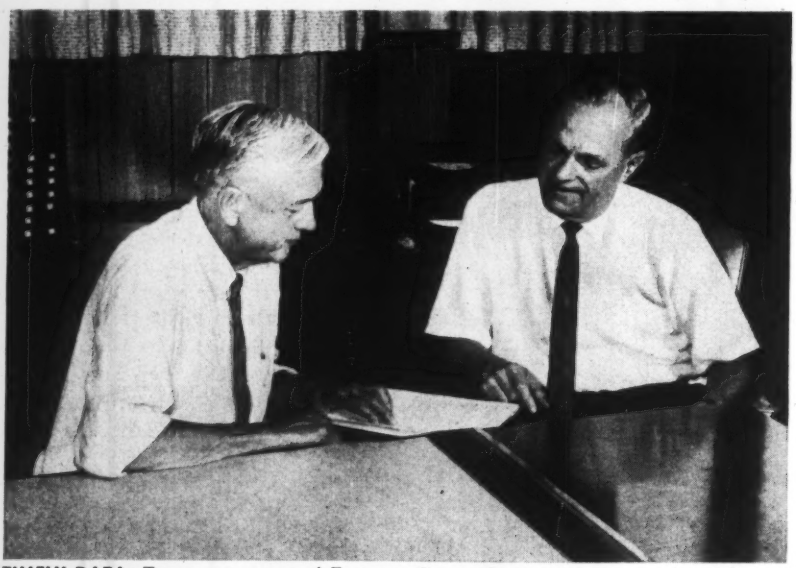
So far, the computer has been geared to handle both payroll and sales analysis, and management is already studying techniques to apply it to production control. It will also be programed to handle raw material- and work-in-process inventory control and, finally, scheduling and load reports.

Management now has available on its desks each morning the complete analysis report of the previous day's payroll, by individuals and by departments.

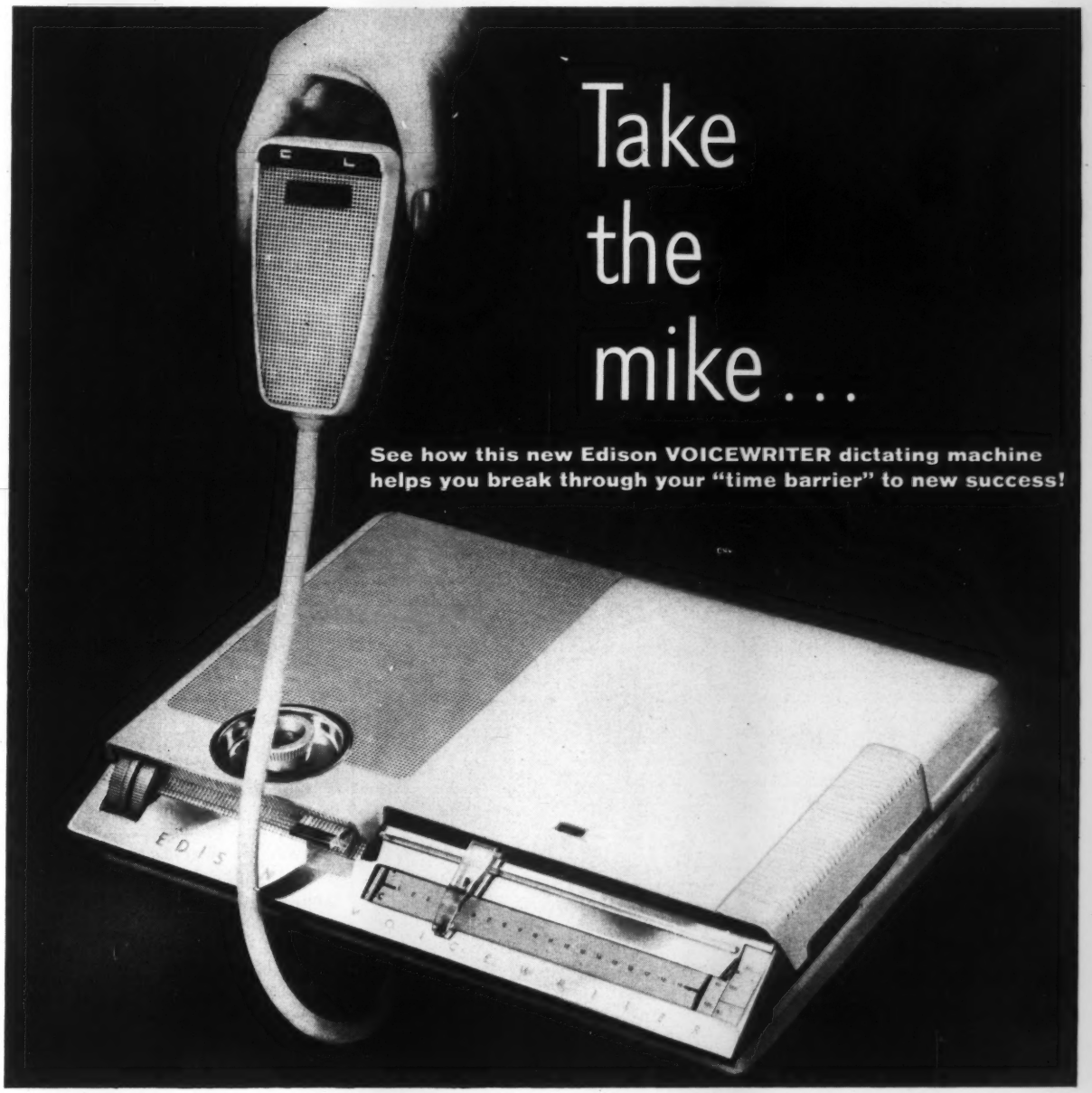
In fact, from the two basic payroll and sales analysis paper tapes, the company is now producing 25 administrative and procedural reports. Some of the most important are the weekly foremen's incentive report, weekly labor cost distribution, computation of salesmen's commissions, analysis by salesmen and by district of products sold, and the customers' sales records and analysis.

In operation, the system is relatively simple. The basic data are com-

DESK-SIZE COMPUTER: *Small machine is programed to meet the needs of a small manufacturer of metal products, Economy Forms Corp., Des Moines, Iowa.*



TIMELY DATA: *Top management of Economy Forms Corp. gets more precise and much fresher operating information from its new data processing system.*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DR-09

TODAY'S OFFICE

piled on one card per man per day. The timekeeper enters the clock card time, standards for the jobs, shift bonuses, and overtime hours. This information is punched on tape.

Working from this basic tape, the computer prints out the payroll analysis, computing incentive pay based on given standards, day work, overtime pay, shift and weekly bonus, withholding tax, social security, and any pay-rate change resulting from job transfers.

In the sales analysis area, the primary source of data for the computer is a billing machine which produces by-product punched paper tape as invoices are prepared.

For the sales department, the computer processes this tape to compile sales by commission category for each salesman; a record of products sold by the salesmen, the district, and the total; and a customer's sales record, breaking down each invoice by product categories.

For the shipping department, the computer maintains a current inventory for all nine warehouses and maintains a report on the balance of inventory to be stored in each warehouse, based on past experience.

This tape also provides the accounting department with the usual basic accounting information, including data on taxes, gross sales, products sold and shipped by value and quantity, interest charges, freight and postage charges, and so on.

Finding the help

At first, Economy Forms feared that the recruitment of programmers might present a major difficulty. But before the delivery of the computer, Claude Brown, his assistant, R. D. Peterson, and Al Jennings, one of the company's industrial engineers who now heads its computer program, attended the programing school conducted by Royal McBee Corp., which markets the computer.

What they learned was reassuring. Brown reports: "Companies our size don't need to go outside looking for computer experts. Most organizations have potential programmers among their employees—they simply need selection and training."

Auto-typist hits letter typing right on the button

Push-button automatic typing is bringing automation to the handling of office correspondence. Now typists push buttons instead of keys, and Auto-typist machines take over and do the typing. They do it in marvelous fashion, too—turning out letters at 2½ times the speed of the fastest typist—neat, erasure-free, error-free letters that are as personal as your signature.

Well over half of general office correspondence is routine—or can be standardized. Sales letters, order acknowledgements, answers to inquiries, and collection letters are only a part of the correspondence that can be handled faster, easier, and more economically by Auto-typist. One typist can turn out 100-125 letters each day with an Auto-typist—3 to 4 times normal manual typing output.

How Auto-typist works—Precomposed letters and paragraphs are perforated on a wide paper roll. This perforated roll operates the typewriter keys. As much as 250 lines of copy can be stored on one roll. Twenty to thirty complete letters can be prepared, or a series of paragraphs which can be combined to make up dozens of letters.

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TODAY'S OFFICE

So far, the company has trained two of its own people as qualified programmers.

All these costs, Brown concedes, are "not pocket change," but he contends that no alert management would hesitate to add this amount to its administrative payroll—if there was a reasonable chance of gaining better control of operations. The entire cost of the new system—for equipment and training—ran to about $80,000.

It is for this reason that the company is determined to achieve complete integration of its business data processing. The objective is to move carefully, adapting the computer to the organization's needs and not vice versa.

No one in Economy Forms management has become so enamoured of this equipment that he thinks some procedures are "not worthy" of its attention. For example, there is discussion in the company of programing dividend payments, then at dividend payment time having the machine compute and print out a summary for check distribution.

"In short," Brown concludes, "we foresee the day when all our procedures and statistics will be taped, but we will proceed toward this goal as time permits and good sense dictates."

How Cross prevents factory cross-ups

Here's how a producer of automation equipment automated its own production control paperwork.

AS production machinery grows increasingly complex and costly, the volume of paperwork in plant offices necessarily rises apace. Although most companies still concentrate on improving traditional office areas, others are discovering that in-plant paperwork is their biggest problem.

The paper flow is supposed to improve the flow of materials through the machines, but if it is allowed to reach flood stage, the paperwork can drown plant executives in the woes of unfulfilled schedules, inefficient machine loading, and uneconomic in-process inventory.

AUTOMATION BEGINS AT HOME: *Clerks at the Cross Company, automation-equipment manufacturer, prepare punched cards for computer that helps in production control.*

Photograph taken at Miracle Mile Shopping Center, Pontiac, Michigan.

Burroughs Electronic Accounting machines speed ledger postings 66⅔% for *J.C.PENNEY*

"Always First Quality" is the standard of excellence that the J. C. Penney Company applies to its broad lines of merchandise and to the equipment that controls its internal operations.

Case in point: the five Burroughs Electronic Accounting Machines that this billion-dollar-a-year firm uses for posting the income and expense ledger cards for each of the 420 stores in its Eastern Region and for daily posting of accounts payable ledgers for J. C. Penney's 10,000 vendors.

Penney's says "The great speed and automation of these very advanced machines enable our operators to post over 1,000 entries a day as compared with 600 on conventional equipment —a gain of over 66⅔%."

Speed? Automation? Among many other functions, the Burroughs Electronic Accounting Machines position forms automatically to the correct posting line, electronically verify proper account selection and electronically read and print out the balance.

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For The Cross Company, a leading manufacturer of "Detroit-style" automation equipment and one of the first companies to automate the flow of plant paperwork, the step was a natural. Its new integrated system developed to control production in the company's new plant is believed to save $50,000 a year in paper-handling costs. In addition, it:

- keeps close control of costs
- orders parts when needed
- assures that the right part is at the right machine for additional processing
- predicts dates of 25, 50, 75, and 100 per cent completion on orders for the huge transfer machines Cross builds for the auto industry
- reports all past-due machine work
- signals when work should be sent to outside subcontractors if the plant is over-scheduled.

Previously, production control was by manual paperwork methods, which were not only slow, but provided no look ahead. Then someone got the idea of utilizing an existing payroll tabulating set-up to mechanize production control. However, it became apparent that the tab equipment did not have the capacity for the job. So management decided to rent a Univac 60 punched-card computer.

Cross has been maintaining a steady load on the computer by assigning the company payroll to it as well as using to keep all its machine tools fully loaded.

Is Your Office Up to Standard?

Practical standards for office operations can make paperwork processing more efficient and plug hidden profit leaks. Here's how management plans and sets wise office standards for equipment, supplies, space, forms, procedures, and performance.

PRODUCTIVITY and profits take a continual beating when office standards are left to chance. Everyday savings in time and material add up to substantial dollar cuts in operating costs—and reduce the budgets needed for the expansion many companies are now planning.

At the DUN'S REVIEW round table on office operations held in New York, F. Walton Wanner, systems consultant of the Standard Oil Company (N.J.), put it this way: "Standardization is absolutely essential to long-range progress."

Among the companies that have found standardization pays off—in everything from ballpoint pens to skyscrapers—is the Western Electric Company. Since 1907, the company has maintained record retention schedules, and since 1928, it has provided office managers with a catalog of equipment specifications in 225 categories. According to A. R. Hutchinson, secretary of the Office Standards Committee, standards are established to insure maximum economy and to provide interchangeability of equipment throughout the company. Western Electric also reports that standardization helps purchasing to improve price, quality, and service.

By having standardized 30-inch modular desks (rather than 34-inch desks), Western Electric Company gained in utilization of general office desk space in the 31-story, $20-million headquarters office building now under construction in downtown New York City.

Savings can be sizable

Since the nation's clerical workforce represents an annual salary bill in excess of $35 billion, any savings that can be produced by standardization deserve serious management attention, whether the focus is on manpower, methods, or mechanization.

Standardization of space allotments for personnel, furniture, machines, storage, and other functions and equipment is, of course, a very real problem in revising present layouts or organizing new ones. Fortunately, many helpful standards are readily available from the National Office Management Association, the Wood Office Furniture Institute, and other sources. Equipment manufacturers, such as Steelcase, Inc., Grand Rapids, Mich., also provide helpful recommendations as part of their sales promotion effort. Globe-Wernicke, Cincinnati, Ohio, and others, offer handy

Why Do Companies Standardize Equipment?

Earlier this year, a National Office Management Association survey threw some light on why offices standardize machines and furniture. The association surveyed 53 companies; of these, 52 per cent standardize machines and 41 per cent furniture. Here are the reasons they give for standardization of equipment.

Reason for machine standardization	Percentage of companies	Reason for furniture standardization	Percentage of companies
Ease of operation	46	Better appearance	77
Reduced training time	36	Interchangeability	64
Operator preference	32	Size advantage	41
Lower repair costs	32	Employee morale	23
Better appearance	14	Space savings	9

Percentages add up to more than 100 because of multiple answers.

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standardized templates for office planners.

Be realistic in planning

Office managers stress that realistic planning, focused on company needs and integrated into an economical system of work flow, provides policy guidance for selecting the best specific standards. Experienced space planners have found that it is very unwise to set up rigid allotments of square footage based on the level of the clerical worker. Instead, they determine the working tools—files, calculating equipment, and so on—required for each type of job and lay out the space requirements according to the functions performed.

Among the proponents of standards for office operations is Arthur Barcan, executive director of the Records Management Institute. RMI has established the following data and standards recommendations in the course of its consulting experience:

The "average" business with 100 employees should:

1. Keep no more than the equivalent of 62 file drawers of records in the office and storage.
2. Retain only 29 of these files in the office.
3. Store the less active records at a total cost of $45 per year.
4. Utilize 37 square feet of space in the office and 12 square feet of space in storage.
5. Limit vital company records to less than two file drawers. Preserve them on microfilm at a cost of one-half cent per document.

The facts of the matter

Barcan claims the "average" business with 100 employees actually:

1. Has more than 103 file drawers in office and storage—a surplus of 40 per cent that indicates that 131,000 pieces of paper are created, filed, and maintained unnecessarily.
2. Retains more than 70 of these file drawers in the office—more than double the standard.
3. Stores the less active records at a total cost five times the standard.
4. Utilizes twice as much square footage as the office standard and five times the standard space which is

needed for the storage of records.

5. Has no means of protecting vital records or has gone overboard on moving them all out of town or filming them. The document protection cost, therefore, rises to three times the standard space for records storage."

Rules of thumb for storage

Obviously, standards will vary in different types of companies. Here are some of the actual ratios of volume of records to number of employees that have been developed by RMI:

- Commercial or industrial operations: 1 cubic foot of records for each employee on the payroll.
- Personnel or purchasing departments: 5 cubic feet of records for each employee on the payroll.
- Specialized clerical operations (such as accounting): 10-12 cubic feet of records for each employee on the department payroll.

RMI points out that a "cubic foot of records is used as a common denominator to measure the quantity of such items as letter-size, legal-size, check- and voucher-size documents. One cubic foot of records holds 2,000 pieces of paper. A letter-size file drawer holds 1.6 cubic feet of records. A legal-size drawer holds 2 cubic feet."

Such standards as these are helpful in establishing records retention schedules and can control—and cut—the $400 annual cost of over-all paperwork operations that RMI estimates as a minimum national average for each office employee. By using these and other standards as guides:

- A 350-employee industrial company eliminated three clerks and eliminated preparing, processing, and filing 75,000 pieces of paper annually.
- A 3,000-employee manufacturer destroyed approximately 10 tons of records and has scheduled the destruction of another 4.5 tons—the equivalent of 2.5 million pieces of paper contained in 150 letter-size file cabinets.
- An 18,000-employee industrial company, in its manufacturing division alone, destroyed or transferred to low-cost storage areas 155,000 pieces of paper—equivalent to 51 file drawers.

Monsanto Chemical Company began a pilot records retention project in 1950 and, in a review of the results

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four years later, discovered that savings of nearly $250,000 had been realized.

Complex forms in a complex world

Although good records retention standards can cut office overhead and achieve efficiencies, this approach is only a partial solution of the deeper problems of the total paperwork system and, often, the forms themselves. Edward G. Aghib, director of product planning, Monroe Calculating Machine Company, summed up the problem like this at the DUN'S REVIEW New York office round table:

> We made a study of invoicing recently and found 630 different invoices produced on punch-card machines, all done differently. There is no reason why there should be so many. Even the form letter that we write is not standardized. Neither is the size of paper bank ledgers or passbook sizes.
>
> We face an enormous challenge in office standardization. Look at production today. If tires and steel were not standardized; if the alloys, the billets that go into our machines, and the ingots that come out of our foundries were not standardized, how could the various manufacturers supply our biggest industry, the automotive industry? All the implements that run American industry are standardized, yet the office is not.

continued on page 106

Standardizing for Savings and Growth—How One Company Does It

To save money, satisfy employees, and set realistic space requirements for growth, the State Mutual Life Assurance Company of America included space and furniture standards in its planning schedule when it moved to its new home office building in Worcester, Mass.

These objectives were defined for the establishment of office furniture standards:

- Reduction of the variety of pieces of furniture to permit greater flexibility and interchangeability.
- Less time spent in selection and purchasing of furniture.
- A more attractive, uniform office.

Fourteen furniture categories were defined to cover all employees from messenger to top management. For example, it was determined that a department head required a 60-inch desk, posture chair, two side-arm chairs, 60-inch table, letter file, and wastebasket. A clerk in the supply room was assigned a 40-inch flat-top single-pedestal desk, chair, and wastebasket.

The furniture fits the job

In the company's Insurance Records Department a large number of file cabinets were used to house punch card records for more than 300,000 policyholders. Clerks were not using the bottom two drawers because they were too low and caused fatigue when used for frequent filing. New file cabinets were made to company specifications, providing more filing space with full-drawer suspension and fingertip handling. The bottom two drawers were eliminated, with resulting savings.

Other furniture also was adapted to job needs. Locks on clerical desks were dispensed with, since the new building itself had a complete system for after-hours control of access to work areas.

At State Mutual, certain "production line" clerical operations seemed better suited to modular furniture than to the usual desk-and-chair work station. Company standards specify that each "production line" must be specially engineered and the cost of all work stations must be carefully appraised.

Complete information distributed

Definitions of fourteen job categories and descriptions of the standard furniture assigned to each category were incorporated in a kit for department heads. This kit also contained a guide for planning uniform office layouts for the company's 1,000 employees. The layouts were used by the contractors in placing electrical and phone outlets and by the movers in placing furniture.

Total space allotted to each department was based upon estimates of future growth and upon standards for the amount of space needed at different staff levels. All estimates were made before the final building design was approved. It was determined, for example, that the ideal space for a clerk was 70 square feet —including aisles, file and supply cabinet space, and other miscellaneous space needs. When desks face in the same direction, 3.5 feet is allowed between the back of one and front of the next. If they face in opposite directions, 6 feet is allowed. The minimum space between desks side by side is 1.5 feet. When rows of infrequently used drawer files open toward one another, 42 inches is allowed between rows. This is doubled to 7 feet between frequently used rows of files.

Any standards program must be flexible enough to allow for the exceptions that will arise from unusual job or department requirements. A company purchasing agent, too, must be continually alert to furniture and equipment improvements or savings that may better satisfy existing or changing organization needs.

TIME-SAVER: *A shelf for frequently used rate books is placed near each work station at State Mutual Life Assurance Company, Worcester, Mass.*

*Research study compiled by Records Management Institute

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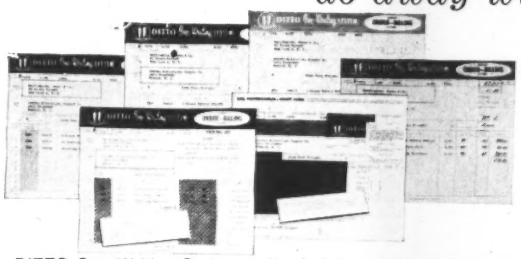

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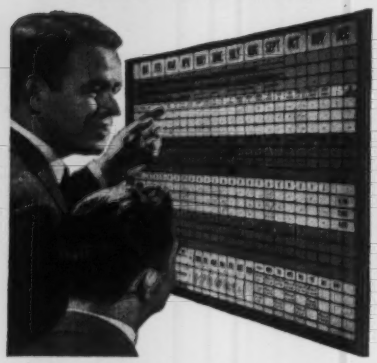

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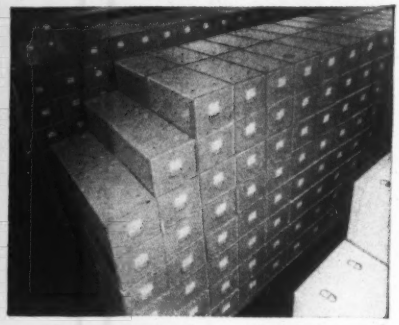

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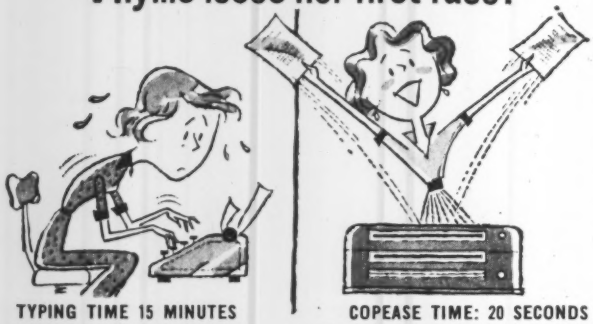

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TODAY'S OFFICE

Standardizing in the office has many potential payout areas. Equipment is an obvious one, although it's often overlooked. As one example, Frank Griesinger, assistant treasurer and office manager of the Lincoln Electric Company, Cleveland, Ohio, points out some handicaps involved in mixed dictating equipment systems:

Our company management has instructed each dictator to use dictating equipment rather than shorthand stenography. Discs and belts of existing equipment are not interchangeable; speeds and center-holes of discs are all different. Consequently, we have standardized on one vendor's machine.

Standardization brings advantages

If the vendors could standardize, says Griesinger, a company could take advantage of improvements made by certain vendors, such as the new transistorized portable units pow-

Office Standardization: A

Standards require nationwide acceptance to realize their potential for cutting office costs, according to the American Standards Association.

The office typewriter is a classic example of the wrong way to establish a standard. Devised almost a century ago, the keyboard was based on a modification of a printer's type case, rearranged so that the keys would not jam on the crude pilot machine. On this haphazard keyboard, the left hand does 56 per cent of the work, and the weaker fingers do most of it. The typewriter demonstrates the importance of establishing national standards early in the development of a new type of equipment.

Standards for dictating equipment

One ASA committee has prepared a number of standards for dictating machines. These standards would help eliminate the retraining problem both for the executive who dictates and the transcribing stenographer or secretary. They also establish safety requirements and help prevent costly overdesign. But the committee's work is now hampered by lack of support

ered by batteries. Interchangeability would permit buying equipment from several vendors, thus improving company results.

Considerable research has been done on standardization in two other vital types of office equipment—lighting and air conditioning. Standards have been recommended by such authoritative sources as NOMA.

Raising the brightness level

A new trend toward brighter lighting has developed recently. In the past, depending on the job and seeing task, 50 foot-candles has been considered adequate for detailed desk work. But Charles H. Bentz, office lighting specialist, General Electric's Nela Park Lamp Division, says:

Recommended light levels are now being based on the individual task and on how much more efficient the individual's work

Growing Industry Challenge

from any sponsoring organization.

The impetus for standardization must come from the people who will benefit. ASA cannot write standards. It provides the machinery and the common meeting ground for those concerned with developing their own mutually acceptable standards.

Setting up international standards

The problem of international standards for office equipment and procedures is also taking on greater significance. World trade in office machinery is substantial. Two projects are now under way at the International Organization for Standardization. ASA, through which U.S. interest in international standards work is represented, has canvassed American groups but has found only limited interest in international work. Other countries, says ASA, may go ahead, however, with the development of international standards even if the United States abstains. As a result, American equipment could eventually be frozen out of foreign markets which have developed different standards from those used in the United States.

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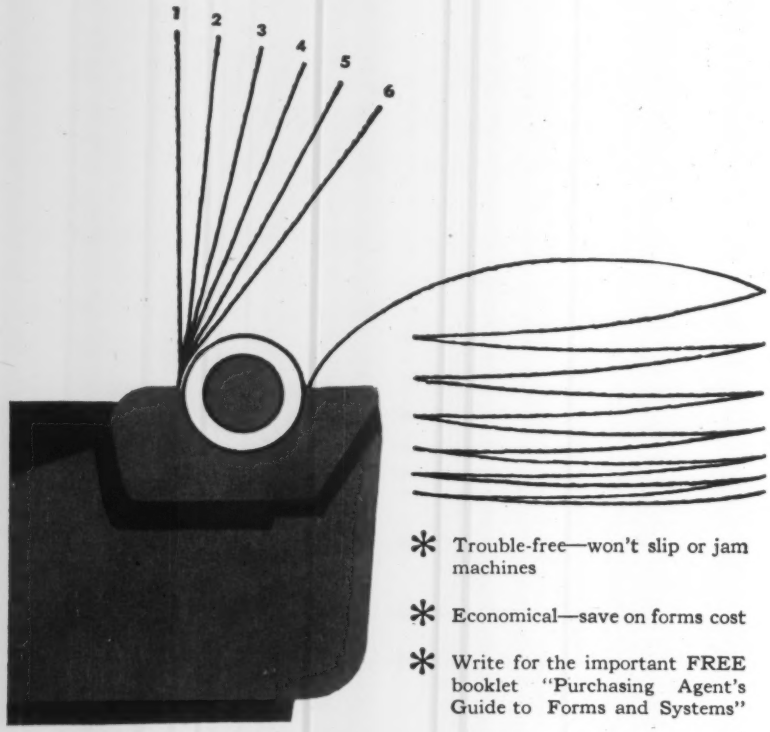

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TODAY'S OFFICE

can—and will—be with better lighting. It also involves visual environment—how pleasant and comfortable the office should be. The Illuminating Engineering Society now recommends a minimum of 100 foot-candles for general office lighting, 150 for bookkeeping, and 200 for drafting. Many installations today meet or exceed these standards. Management finds better lighting increases productivity, reduces turnover, and improves employee morale.

Cool air means more work

As many offices have discovered, air conditioning can also yield better working conditions and better work. The General Services Administration of the U.S. Government recently released the results of a study showing that efficiency increased 9 per cent in air-conditioned offices. Manufacturers usually recommend a temperature of 78 and humidity of 45 during the summer. In the winter, they recommend that the temperature be a few degrees lower and humidity about 15 percentage points less.

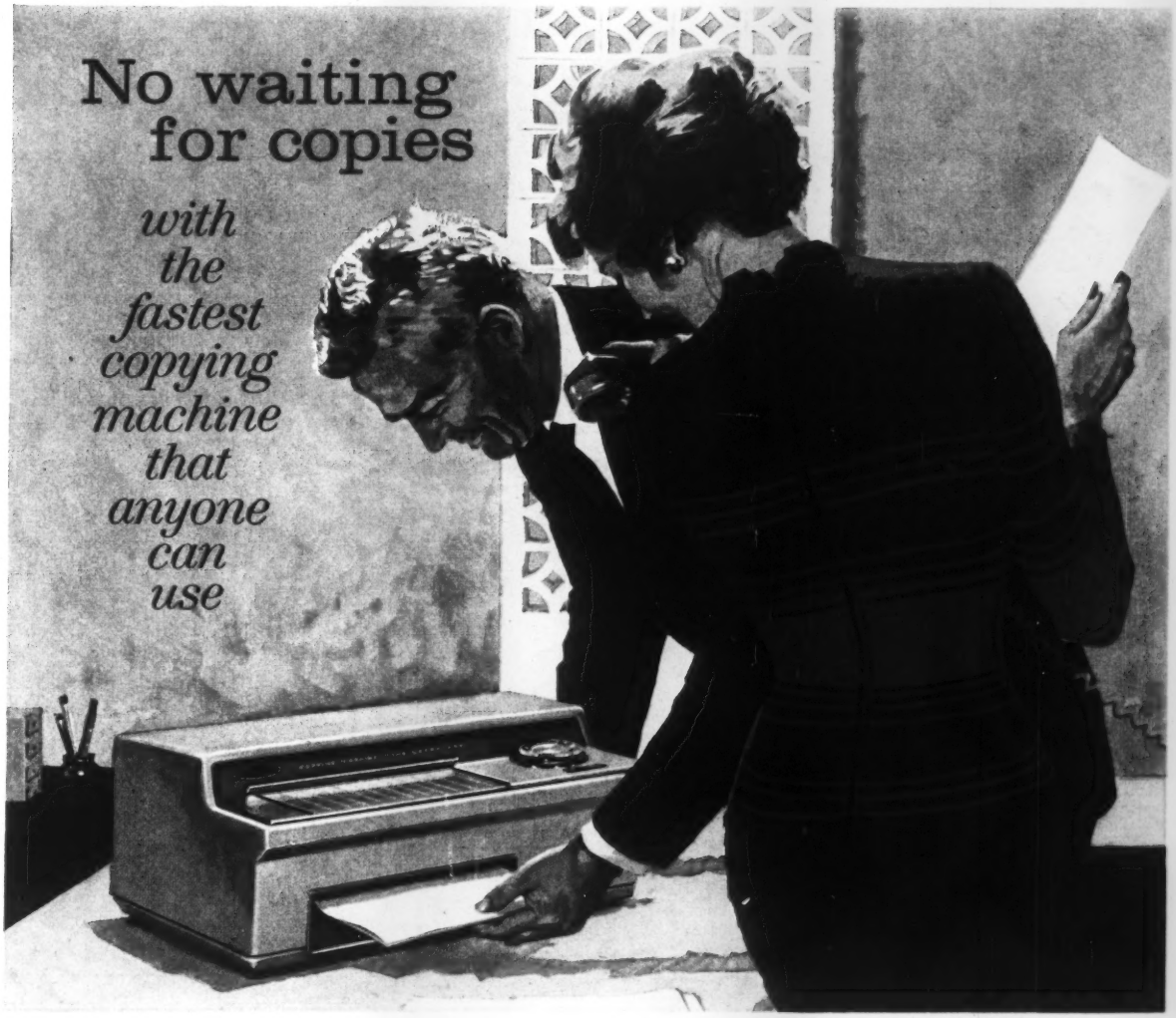
But although it may be improved by the use of standards for the office environment, productivity depends much more on standards and controls for work measurement.

Like many other companies engaged in work measurement and systems improvement, the New York Central System, according to C. D. Edwards, director of systems and procedures, is finding that "getting improved efficiency from a system involves getting improved efficiency from people." He adds this:

> You can take an office with 50 people in it, make a major systems change, and wind up with 35 people. But they may work at a less efficient level than the 50 who were there.
>
> I think there is a gross efficiency relationship from systems improvement, but you have to include personnel when you talk about clerical productivity. I believe that the key requirement is to keep score. We are finding out in our program that when people know what they are expected to do with their present training, they want to do that much. If a company lets people know what its standards are, productivity will rise.

The Burroughs Corp., Detroit, did just that, on a sample basis, to evaluate clerical productivity in 144 branches. According to James Myers, manager of Burroughs' Methods and

continued on page 111



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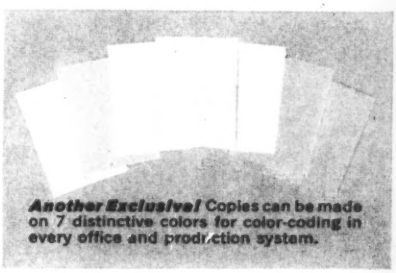

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Procedures division, the company has continuously had the problem of determining optimum staff levels for branch offices. Says Myers:

Just recently, we attempted an operations research approach to this problem by analyzing the relationship between clerical investment and the branch's productive effort. The latter was measured by the sales quota carried and by the total number of sales and service personnel.

This research isolated the extreme groups—those branches with an excessively high clerical investment, both in terms of payroll and equipment—and those whose investments were substantially lower. After this was determined, marketing management concentrated on establishing norms. This yielded a picture of efficient operating levels and enabled each branch manager to set objectives for clerical levels.

The amazing result was this: In six months, branch management reduced the clerical workforce by an annual equivalent of $125,000 with no loss of clerical effectiveness.

Standardized methods had existed and been used by branches for quite a long time. The critical factor, I think, was that we established a productivity objective. People were told at about what level they should operate, and a system of scorekeeping was set up so that each of the branches could be ranked according to its performance and each branch manager could be charged with identical responsibility.

This scorekeeping idea was tremendously effective in producing action, for the manager who ranked 140 out of 144 branches knew he was below standard.

The importance of setting up productivity standards, especially before installing new equipment, was summed up at the DUN'S REVIEW Chicago conference by William H. Seaman, president of Seaman and Company, Inc.:

Many companies without realizing it have actually achieved less productivity by installing equipment that turns out the same amount of work that was being produced without it. Unless management has predetermined the schedule and volume of work to be turned out by the use of the new equipment, the personnel will simply adjust to a little lighter work load than they previously carried. It is essential to set standards beforehand and then install the right load or control for work assignment. I believe that the planning of what machines should do is more important, in many cases, than the machines themselves.

Management's job was succinctly stated by Industrial Engineering Professors Wallace J. Richardson and Robert E. Heiland of Lehigh University, and is reported by the American Management Association as follows:

[It is useful to] review the objectives of *all* analysis and measurement. It is easy to become entranced by technique, at the expense of accomplishment. Many times this happens because we tend to lose sight of

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Pine Bluff—The Perdue Co.

CALIF. Anaheim—Anaheim Office Furn. & Sup. Co.
Bakersfield—Valley Office Supply
Fresno—Healey & Popovich
Glendale—Hopper's Office Furniture
Los Angeles—Pacific Desk
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San Diego—Austin Safe & Desk Co.
San Francisco—Beier & Gunderson
San Jose—Kennedy Bus. Mach.
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New Haven—Joseph F. Yates, Inc.

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Mariana—Mariana Office Supply
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Sarasota—Williams Co.
Tallahassee—Commercial Off. Sup.
West Palm Beach—Tucker & Johnson

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Savannah—Kennickell Prtg. Co.
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IDAHO Boise—Syms-York Co.
Bloomington—Paxton Typewriter Co.

ILL. Chicago—Horder's, Inc.
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Marshall Field & Co.
Monroe Furniture Co.
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Forest Park—Olsen's Office Sup.
Kankakee—Byron Johnson
Moline—Carlson Bros. Inc.
Peoria—Business Equipment Co.
Quincy—Oennings
Rockford—McFarland Office Equip.
Springfield—Jefferson Stationers
Zion—Burgess, Anderson & Tate

IND. Ft. Wayne—O'Reilly Office Supply
Indianapolis—Wm. B. Burford Prtg.
South Bend—Business Systems

IOWA Cedar Rapids—Morris Sanford Company
Council Bluffs—Emarines
Des Moines—Storey Kenworthy Co.
Dubuque—C. F. Cody Company
Marshalltown—Marshall Off. Sup.
Mason City—Yelland & Hanes
Muscatine—Lew Typewriter
Newton—Newton Office Supply Co.
Sioux City—Sioux City Stationery
Spencer—Bergstrom Office Supply
Waterloo—Latta's, Inc.

KAN. Hutchinson—Roberts Pg.
Salina—Consolidated Prtg. & Stat.
Topeka—Thacher, Inc.
Wichita—Bauman Office Equip. Co.

KY. Lexington—Transylvania Prtg.
Louisville—O'Connor & Raque

LA. Alexandria—Garrett Off. Sup.
Baton Rouge—Louisiana Off. Sup.
Crowley—Geo. W. Rollosson & Son
Lafayette—General Office Supply
Lake Charles—Lake Charles Off. Sup.
Monroe—Standard Office Supply Co.
New Orleans—J. D. LeBlanc, Inc.
Shreveport—Castle Printing Co.
The Drake Co.

ME. Bangor—Bangor Office Supply
Portland—F. O. Bailey Co., Inc.

MD. Baltimore—Baltimore Stationery Co.
Modern Stationery Co.
Salisbury—White & Leonard

MASS. Boston—Contract Sales, Inc.
L. E. Muran
L. J. Peabody Office Furn. Co.
Framingham—H. M. Nichols & Co.
Worcester—Palley Office Supply Co.

MICH. Battle Creek—Wellever Bus. Sys.
Detroit—J. L. Hudson Co.
Kalamazoo—Dykema Office Supply
Pontiac—General Prtg. & Off. Sup.
Sault Ste. Marie—Sault News Prtg.

MINN. Duluth—Weygant-Goodspeed Co.
Faribault—The Beltz Co.
Minneapolis—Miller Davis Co.
New Ulm—Kemske Paper Co.
Owatonna—Journal-Chronicle
Rochester—Whiting Stationers, Inc.
St. Paul—McClain & Hedman & Schuldt Co.

MISS. Greenwood—Fisher Stationery Co.
Gulfport—The Office Supply Co.
Hattiesburg—Standard Off. Sup.
Jackson—Mississippi Stationery Co.
Laurel—Partlow-Tyler Co.
Tupelo—Stark Weatherall Off. Outfitters

MO. Columbia—Central Office Equip.
Hannibal—Std. Printing Co.
Joplin—Joplin Printing Co.
Kansas City—Duff & Repp
Poplar Bluff—Poplar Bluff Printing
St. Joseph—Brown Transfer & Stor.
St. Louis—Lammert Furniture Co.
Sikeston—Scott Office Equipment
Springfield—Elkins-Swyers Co.

MONT. Billings—Gazette Printing
Great Falls—Tribune Printing & Sup.

NEB. Hastings—Hastings Typewriter
Lincoln—Latsch Brothers
Omaha—Orchard & Wilhelm Co.

N. J. Elizabeth—Business Furniture Inc.
Newark—Max Blau & Sons
Herbert L. Farkas Company
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N. Y. Buffalo—Hoelscher Stat.
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OHIO Akron—Summerville's
Canton—Office Equipment Co.
Cincinnati—Globe Office Equipment
Cleveland—Randolph Desk Co.
Columbus—F. J. Heer Printing Co.
Dayton—Archie Sherer Co.
Elyria—Lorain County Stationers
Findla —Evans Typewriter Co.
Toledo—Newell B. Newton Co.

OKLA. Ardmore—National Off. & Bank Supply
Bartlesville—Bartlesville Stationery
Lawton—Southwestern Stat. & Bank Sup.
Oklahoma City—House of Wren
Ponca City—S'western Stat. & Bank
Tulsa—Scott-Rice Company
Tulsa Stationery Co.

ORE. Eugene—Koke-Chapman
Portland—Kubli-Howell Co.

PA. Allentown—Royal H. Eckert
Easton—Stotz Office Equip. Co.
Erie—Rider Office Equip. & Sup.
Harrisburg—Cole & Company
New Castle—Castle Stationery Co.
Norristown—D. M. Feldman, Inc.
Philadelphia—A. Pomerantz & Co.
Pittsburgh—Gener l Office Equip.
Reading—Wm. H. Hintz, Inc.
Wilkes-Barre—Graham's Office Supply
York—H. G. Bancroft

R. I. Providence—Providence Paper

S. D. Rapid City—Western Stationers
Sioux Falls—Midwest Beach

S. C. Columbia—A. Hines McWaters

TENN. Chattanooga—Office Equip. Commercial Staty. & Supply Co.
Jackson—Tom Lawler's Stationers
Memphis—S. C. Toof Company
Nashville—Hassey Prtg. & Stat.

TEX. Abilene—Abilene Prtg. & Sta.
Amarillo—S'western Stat. & Bank Supply
Austin—The Steck Company
Beaumont—E. Szafir & Son Co.
Corpus Christi—John H. Yochem Co.
Dallas—Clarke & Courts
Stewart Office Supply Co.
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Fort Worth—Stafford-Lowdon Co.
Houston—Clarke & Courts
Wilson Stationery Co.
Lubbock—The Baker Company
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San Antonio—Maverick-Clarke Litho
Tyler—Hixson & Ellis
Story-Wright Company
Waco—Hill Prtg. & Stationery Co.
Wichita Falls—Buchanan Stationery

UTAH Ogden—Weber Office Supply
Salt Lake City—Utah-Idaho Schl Sup.

VA. Richmond—Southern Stamp & Staty. Co.

WASH. Seattle—Bank & Off. Equip.
Tacoma—Puget Sound Office Equip.

W. V. Charleston—S. Spencer Moore
Huntington—Standard Prtg. & Pub.

WIS. Appleton—Sylvester & Nielsen
Green Bay—Stueba Binding & Prtg.
LaCrosse—Swartz Office Supply Co.
Madison—Frautschi's, Inc.
Milwaukee—Forrer Equipment Co.
Oshkosh—Scharpf's, Inc.
Sheboygan—Office Supply & Prtg.
Wausau—Lippin Office Supply

WYO. Casper—Prairie Publishing

WASH., D. C.—Chas. G. Stott & Co.

CAN. Calgary, Alberta—Nor hwest Whole. Furniture
Vancouver—Brownlee Off. Outfit.

Coming next month

"Too Much Security?"

by Clarence B. Randall

Have Americans really gone soft? Has the protection of social benefits built up during the past twenty years robbed us of our drive and initiative? Or has this revolutionary social change brought compensating advantages to the nation and to the individual worker?

Read the thought-provoking answers of one of America's leading industrialists in the October issue of

DUN'S REVIEW AND MODERN INDUSTRY

our real aims. Office and clerical analysis and measurement techniques must provide major assistance in reaching these three goals of management:

1. To organize and operate for analysis, measurement, and evaluation in such a way that continuous control by management may result. All efforts and results should be compatible and capable of continuous integration in a unified plan, administered by management.

2. To obtain a reliable picture of how our clerical expense is now distributed.

3. To evaluate opportunities for improvement on the basis of present actual costs vs. probable future costs.

The first step to improvement, it would seem, should lie in knowing what we are doing *now*, and in knowing our present *costs*, at least sufficiently well to avoid making errors of judgment in evaluation of alternatives. Thus, it follows that our third objective permits us to avoid the pitfalls lying in the path of those who proceed from an unwarranted assumption to a foregone conclusion, unimpeded by facts.

Management authorities stress that standardization can't be a piecemeal activity. To be effective—in terms of efficiency improvements and reduced overheads—the management that develops standards for equipment, paperwork, and methods in the office will have to keep its eye on the overall operation.

TODAY'S OFFICE

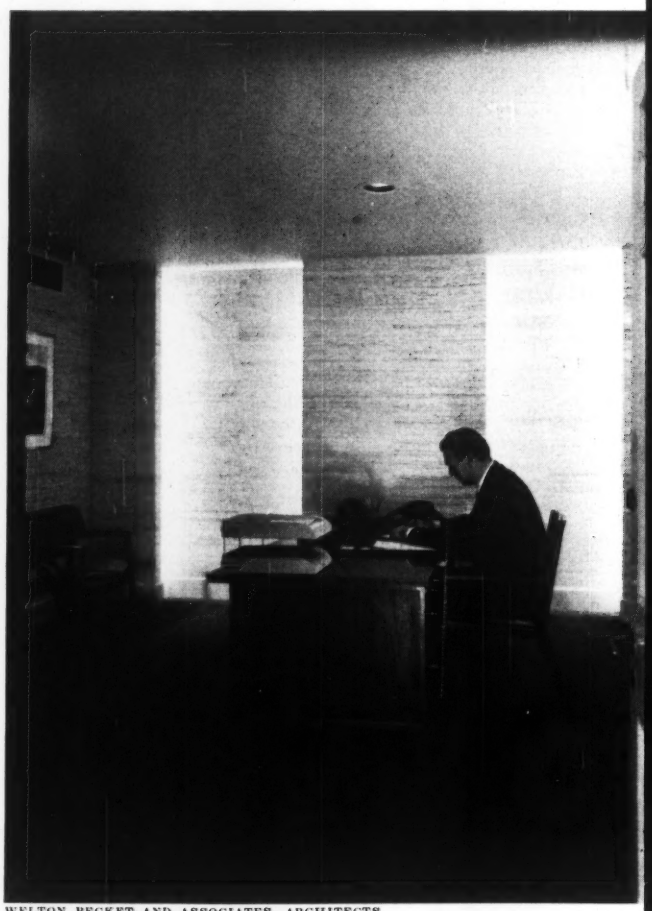
Ideas You Can Use

IN addition to developing standards, management is continually on the lookout for shortcuts or improvements in office operations. Here's a round-up of practical ideas for office efficiency that are proving out in many companies. Individually, they may not be earth-shaking or dramatic, but success in office operations depends primarily on many small advances.

EBASCO SERVICES, INC.

AMONG THE advantages of open-shelf filing are a 15 per cent reduction in filing time and considerable saving in floor space, reports Adell Chemical Company, Holyoke, Mass. Adell clerks find the work much less tiring since they don't have to open and close file drawers. Colored tabs on the sides of the folders identify various department records, such as traffic correspondence and claims, customers' correspondence, paid warehouse and carriers' bills, and general records. The files hold records for two years, after which they go to the retention area. Only the clerks assigned are allowed to touch the files.

Years ago, shelf filing was used almost exclusively for inactive records. But today it is in wide general use. In fact, about 90 per cent of all insurance company active records are shelf-filed.



WELTON BECKET AND ASSOCIATES, ARCHITECTS

AN INSIDE executive office without windows is made cheerful and comfortable by coves with fluorescent lighting.

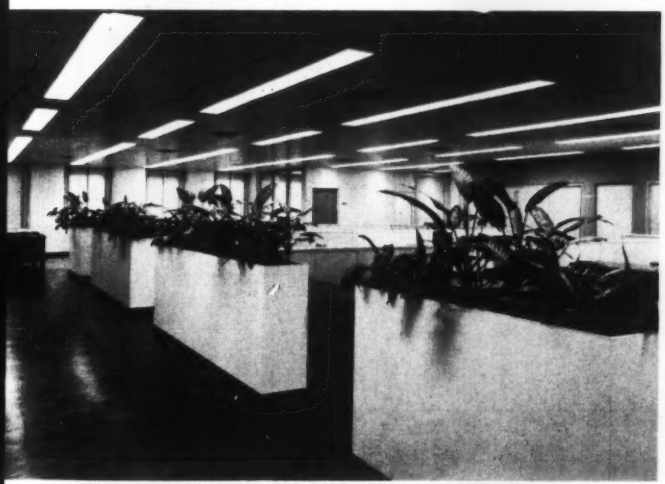
continued on next page

DESKS in the new Reynolds Metals Company building in Richmond, Va., are designed to discourage employees from filing papers in their desks rather than in the files. To demonstrate the versatility of its aluminum, the company used the product throughout the building —in desks, chairs, luminous ceilings, wastebaskets, ash trays, and even in drapes and carpeting.

EMPLOYEES in the accounting department at McCulloch Corp., a California producer of power saws and industrial motors, enjoy the cheerful atmosphere produced by carpeting, red desks and files, green walls, and framed artwork—an unusual approach to office decor.

SHAW-WALKER COMPANY

BY MOVING its executive secretaries out of their individual cubicles and placing them in a pool area such as this, an Eastern chemical company has cut its secretarial staff by a third. Since the secretaries are no longer isolated, they pitch in and help each other when necessary, thereby eliminating the need for extra help.



MARIA BERGSON ASSOCIATES, DESIGNERS

TO REDUCE distraction and to develop a feeling of privacy in the general clerical work area, the Leo Burnett Company, Inc., Chicago, uses 43-inch-high dividing partitions containing movable plant boxes.

THE GENERAL FIREPROOFING COMPANY

WAITING LINES at busy files are avoided by the use of these new file units. Drawers open from either side.

Making Equipment Pay Off

New approaches to the purchase of office equipment are paying off in many companies. A survey of 285 companies throws new light on purchasing practices and shows how companies are making new equipment bring results.

ALTHOUGH company procedures for the purchase of office equipment are generally less formalized than those for investment in plant production equipment, there has been an important change in the past few years in management's methods of determining when and how to make purchases of new tools for the office.

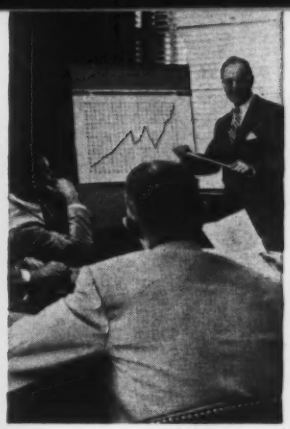
Some companies report that equipment is simply used until excessive maintenance costs make replacement more economical. But most alert companies are now continually assessing proposed new equipment and installations against their present methods—primarily in terms of cost reductions and improved information.

Increasingly, companies are insisting that office equipment pay for itself in just a few years. Says the controller of a major textile company: "Office equipment is not acquired on long-term optimism. We don't want to

How Much Time Should New Equipment Save?

Companies today are generally insisting that new office equipment pay for itself (regardless of depreciation schedules) within five years. Management looks for savings in clerical time as a means of recouping the cost of the equipment. This table shows how many minutes have to be saved at various salary levels to recover various expenditures for office equipment. For instance, a $500 piece of equipment supplied to a $65-a-week clerk should save about fifteen minutes a day in order for the cost to be recovered within five years. This is computed on the basis of 250 eight-hour workdays a year.

Price of equipment	Weekly Wages												
	$40	$45	$50	$55	$60	$65	$70	$75	$80	$85	$90	$95	$100
	Minutes saved daily to recover equipment cost over five years												
$ 100	5	4	4	3	3	3	3	2	2	2	2	2	2
$ 200	9	8	8	7	6	6	6	5	5	4	4	4	4
$ 300	14	13	11	10	10	9	8	8	7	7	6	6	6
$ 400	19	17	15	14	13	12	11	10	10	9	8	8	8
$ 500	24	21	19	17	16	15	14	13	12	11	11	10	10
$ 600	28	25	23	21	19	18	16	15	14	14	13	12	11
$ 700	33	29	27	24	22	21	19	18	17	16	15	14	14
$ 800	38	34	30	28	26	24	22	21	19	18	17	16	15
$ 900	42	38	34	31	29	27	25	23	22	20	19	18	18
$1,000	47	42	38	35	32	30	28	26	24	23	21	20	19
$1,100	52	46	42	38	35	32	30	28	27	25	24	22	21
$1,200	56	50	46	42	38	36	33	31	29	27	26	24	23
$1,300	61	55	50	45	42	38	36	34	32	29	28	26	25
$1,400	66	59	53	49	45	41	39	36	34	32	30	28	27
$1,500	70	63	57	52	48	44	41	39	36	34	32	30	28
$1,600	75	67	61	56	51	47	44	41	39	36	34	32	30
$1,700	80	72	65	59	54	50	47	44	41	38	36	34	32
$1,800	85	76	68	63	58	53	50	46	44	41	38	36	34
$1,900	89	80	72	66	61	56	52	49	46	43	40	38	36
$2,000	94	84	76	70	64	59	55	52	48	45	43	40	38



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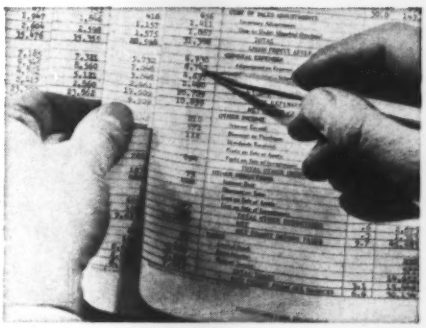

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NEW CONCEPTS IN PRACTICAL OFFICE AUTOMATION

risk obsolescence before we realize the return on our investment."

Of the 278 surveyed manufacturers (see details on page 56), 197 have policies governing the number of years in which office equipment is expected to pay for itself by producing savings. Twenty-three per cent of these 197 companies allow five years for recouping the cost of investment. Three years is the period preferred by 22 per cent; 17 per cent require that new equipment must return the full original cost within two years. Eight per cent set the figure at four years, and another 8 per cent wait as long as 10 years. Only 3 per cent require a payoff within one year.

Fixing the payoff period

Of course, the length of the payoff period varies with the kind of equipment in many companies. Generally, less expensive, smaller equipment is expected to pay for itself sooner.

Companies have many varied ways of assessing the advisability of proposed investments in office equipment. Generally, the decision is simply made on the basis of the amount of clerical time that can be saved. After this has been accurately determined, it is translated into dollars and measured against the cost of the equipment to determine the payoff period (see the table for data on savings needed to pay for new equipment).

Intangible benefits

Not all of the surveyed companies, however, look upon new equipment simply as a means to clerical displacement or time saving. A good number report that they think of the payoff in terms of such intangibles as better and fresher information for decision making, faster and more accurate handling of paperwork, and improved customer service.

For instance, the controller of a large Midwest glass producer indicates that clerical cost reduction is seldom the primary reason for purchasing new office equipment. He will consider new equipment costing as much as or even more than the previous system if it produces better information for top management—information that may be worth much more than the added cost.

Formulas prove slippery

The difficulty of costing out such intangibles as better information for management control prevents many companies from working out standard formulas for proposed investments in office equipment. Generally, however, management seems to feel that a proposed data processing system—involving a substantial investment—should cost no more than the system it replaces—that is, unless demonstrably important intangibles are involved. Authorities in office operations point out that management's failure to take this approach led to many costly mistakes with computers a few years ago.

Currently, however, companies are attempting to cost out the intangibles. For instance, the controller of a Midwest machinery company demonstrated the approximate losses due to a poor inventory control system against the cost of a new mechanized system and proved the new installation would pay for itself.

In part, it may have been management's insistence on direct savings in clerical cost as a criterion for equip-

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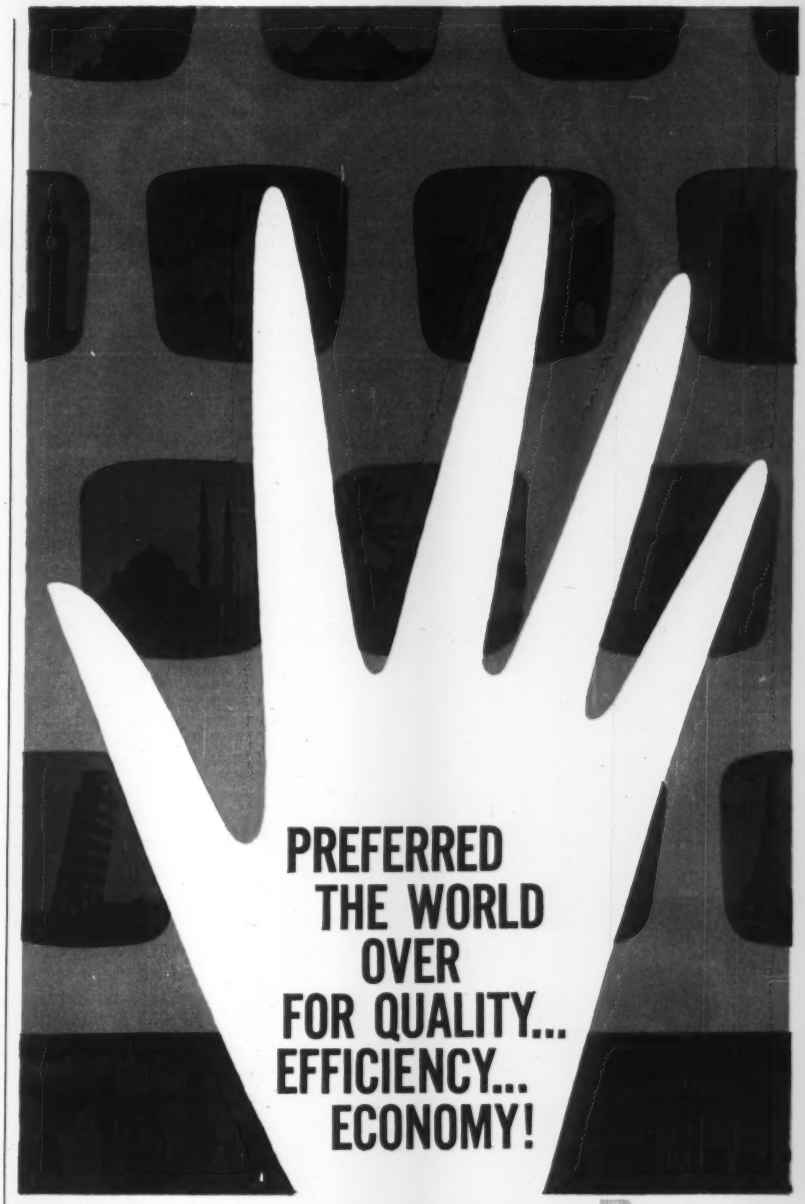
ment investments that led to such widespread disappointment with large computers. For, as the manufacturers point out, the primary benefit from computers doesn't come from using them as high-speed clerks, but rather as a means of arriving at more precise and integrated control of the entire company. Hence the disillusionment of many companies that put their computer to work on the payroll—and the satisfaction of companies that are gaining real benefits from using the computer on inventory control. Payroll is a clerical activity complete in itself. But precise and up-to-the-minute inventory control affects customer service, production scheduling, relations with suppliers, and other dynamic functions of an enterprise.

Sales volume swelled

Frequently, benefits from the so-called intangibles can be much larger than the reduction clerical costs. One salesman for a major equipment producer demonstrated to a large hardware wholesaler in the Southwest that the three people handling his billing operation could be replaced by one operator and one machine, at a saving of thousands of dollars each year.

After the new equipment was installed, however, the wholesaler discovered that the dollar savings were small compared to the actual profit potential that was also involved. This was because billing was now done on the same day, instead of in the three days it previously took. The wholesaler's capital was turning over faster. The inventory in the local hardware stores was moving faster, since previously the retailer had waited for the bill in order to cost the items before selling them. And the faster sales were resulting in much larger total sales at the year's end.

Companies purchase office equipment for a variety of reasons (see the chart on page 58). For instance, the controller of a Virginia food processor says, "When new equipment is purchased, it must either prove to be time-saving or have other improvements that will better the morale of the operators." However, currently there are two basic conditions under which purchases are made, according



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9-59

Signature

to the new DUN'S REVIEW survey. Most office equipment—about 75 per cent—is purchased to improve the efficiency of current office operations, while 25 per cent is purchased simply to provide for expanded operations.

The Mailroom:

An Open-and-Shut Case for Automation

As the total volume of business mail doubles between now and 1975, the mailroom will become increasingly mechanized and automated—eventually approaching the ideal of no string, no stamps, no hands—and no confusion.

THE mailroom is perhaps the most fertile ground for mechanization in the entire office operation. Since the work of the mailroom involves physical objects (envelopes and inserted material) and not information *per se*, it is unusually susceptible to mechanization. Manufacturers are developing an entire battery of equipment to relieve the drudgery of sticking stamps, stuffing envelopes, and sorting mail.

Last year, 22 billion pieces—out of 61 billion received, processed, and delivered by the U.S. Post Office—were sent by American business to customers, prospects, and shareholders, at a cost of $272 million in postage alone. And by 1975, authorities say, the total volume of mail will double. Business is expected to account for at least a third of the 122 billion pieces of mail that will be delivered annually.

The new efficiency

To solve the growing volume problems in the mailroom, management is seeking to cut costs and increase efficiency. Mailroom and related functions are taking on a new look with integration, better controls, streamlining, mechanization, and more automation—especially in larger companies where the stacks of mail are growing more and more unwieldy. A well-designed mailroom, which can cut manpower needs in half, must be tailor-made to the volume, type, and timing of the company's mail. So far as possible, equipment should do double duty in handling both incoming and outgoing mail, and the layout should save motions and steps for the employees.

New, faster, and more efficient machinery is being made available for the usual functions in company mail processing: addressing, collating, folding, inserting, sorting, stacking, tying, sealing, weighing, stamping, and conveying. And much of the more highly mechanized machinery combines several of these functions.

Key points for decision

According to some mailroom equipment producers, such as Francis D. Whiting, marketing vice president at Bell & Howell Phillipsburg, there are five focal points for mailroom mechanization decisions: (1) volume of mail handled, (2) manpower requirements, (3) annual overhead costs (such as space), (4) deadlines, and (5) the level of desired accuracy.

One indication of the trend toward more mailroom automation is the increased use of the automatic mail-inserting machine. According to a study made by Whiting's company, more than 7 billion pieces of mail were handled by automatic mail-inserting machines last year. There are now 3,000 mail-inserters in use, compared with 1,000 in 1951.

A letter a second

One mail-inserting machine now processes 3,500 pieces of mail an hour for Dictaphone Corporation, Bridgeport, Conn. The company mails out more than 1.5 million letters every year.

Ozalid "Instant-Copying" puts design to work ... fast!

Speeds office paper work, too. Table-model Ozamatic has 16″ width, turns out up to 1000 copies an hour. Used widely for "one-writing" business systems, general copying. Send for folder No. H-9 to Ozalid Division, General Aniline & Film Corp., Johnson City, N. Y.

OZALID DIRECT-COPYING saves time—for the engineer, architect, draftsman—through fast, dependable reproduction of prints. Slashes retracing time when design changes are made. Safeguards valuable originals. Cost? Less per copy than any other copying process! The new Printmaster 1000 (shown above) offers more *useful* speed than any other whiteprinter—up to 100 f.p.m.—gives clear, dry copies in seconds. There's an Ozalid product for every copying need, every budget! Call your local Ozalid representative, or write: Ozalid Division, General Aniline & Film Corp., Johnson City, N. Y.

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SENSITIZED MATERIALS • PRODUCTS FOR DESIGN • LITHOGRAPHIC PRODUCTS

OZALID

Division of General Aniline & Film Corp., In Canada: Hughes-Owens Co., Ltd., Montreal

UP FROM THE SUBBASEMENT: *Unlike many company mailrooms, the new one at Hagan Chemicals and Controls Company, Pittsburgh, is bright and pleasantly decorated.*

TODAY'S OFFICE

According to the supervisor of the company's Addressograph and mailing operations, "We are now able to handle our peak periods with no extra workers. And we file and revise our mailing lists without interruption."

"In previous years," says the company's superintendent of office services, "when a special mailing came in, at least five girls dropped regular duties to process 12,000 pieces of mail a day. Today, with a machine, 28,000 mail pieces go out in eight hours."

Five years ago, when the Book-of-the-Month Club sent out 8 million pieces of mail a year, schedules were difficult to meet. Mailings often ran a day late, and extra workers had to be hired to handle special projects. In 1955, the Club began mechanization of its mailroom and now uses eight automatic mail-inserters to help send out 27 million pieces of mail a year, including a 7-by-10-inch booklet. Both errors and costs have been reduced, the company claims.

Inserters have solved an equally difficult mailing problem for the Mechanics Finance Company in Jersey City, N.J. This business service handles about 200,000 charge accounts for hundreds of retail stores and must maintain its accounts on a current daily basis. Before mechanizing, the company was manually stuffing about 1,500 credit cards, 1,000 to 2,500 account books, and 5,000 dunning notices daily. To process this volume, the company was using the services of two full-time mailroom clerks and, on the average, one hour a day from each of 22 telephone girls on the day shift and about 15 on the evening shift.

Time saved, cost cut

Since the installation of Pitney-Bowes automatic mail-inserters, the company saves 40 hours a day over manual stuffing—the equivalent of five full-time employees. In addition, the 8-hour manual stuffing job formerly done by the clerks is now completed in 60 to 90 minutes by machine. Annual wage savings, according to the company, are more than $12,000.

Obviously, to effect savings that are this dramatic, the company's mail load must be a heavy one. But some degree of mechanization and supervisory control can effect other significant savings in company mailrooms. A recent survey showed that one-third of the 100,000 users of desk-model postage meters spend less

How to OWN your OWN telephone system...

(see facing page) ▶

than $1 a day for postage. Modern sealing and metering machines, according to the National Office Management Association, may achieve as much as 20 per cent savings in mailing costs, chiefly by reducing labor costs and stamp pilferage.

Among the relatively small types of equipment essential to cost efficiencies in the over-all mailroom operation are postage scales. Overpayment of a mere dozen letters a day could cost $120 annually, assuming a 250-day work-year. On the basis of 5 per cent net profit, this could represent annual sales of $2,400.

One bank in Maine, for example, recently tested the accuracy of its postal scales. The bank, which normally mailed about 12,000 statements a month, discovered after testing the weight of just 2,000 statements that it was overpaying $15 in postage—or a projected total of $90 a month, adding up to more than $1,000 annually.

Rewards of centralization

Many companies have also cut costs by centralizing their mailroom operations. NOMA mentions a number of typical advantages:

- Operations become the responsibility of a single experienced person
- Duplication of equipment and effort is avoided
- All postage is subject to proper accounting and control
- Centralization maximizes service to all departments
- Systematic scheduling of pickups and deliveries avoids problems of congestion
- Labor-saving devices cut personnel costs
- Regular clerical personnel are freed from part-time mail duties.

However, not all opportunities for cutting mailing costs exist in individual companies. Improvements in the U.S. postal service and standardization of letter sizes and shapes could bring important savings. More standardization is expected—and may become requisite—to meet further automation in many mailrooms and post offices. According to the American Standards Association, an international project has recently been started to standardize paper and paper prod-

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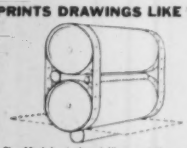

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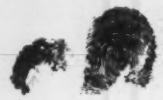

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TODAY'S OFFICE

ucts, including envelopes and postcards.

The why of standardization

ASA spokesmen report: "Nobody has figured out how much extra time and money it costs post offices all over the world to handle envelopes of all sizes and shapes, ranging from the No. 10 envelope (9.5 inches by 4.5 inches) favored by American business to the compact 4-by-5-inch envelope popular in England. Varying envelope and postcard sizes are also a great obstacle to the automatic cancelling of stamps and sorting of mail."

Mail in the missile age

Although mail delivery by missile is still not much more than a stunt (a Regulus missile carried 3,000 letters from the deck of a submarine to the Florida coast last June), some of the other devices now being tested by and developed for the Post Office Department undoubtedly will have an impact on office mailroom operations.

The devices the Post Office is testing include conveyer belt systems with electronic shunting devices, electronic scanners that will actually read and sort typewritten addresses, and highly automated mail sorters installed in 300 city post offices and said to be capable of sorting up to 36,000 letters an hour.

Developments of this nature are bound not only to change and improve national mail distribution but also to solve some of the problems of the mounting volume of business mail—and to present tomorrow's office management with new challenges and opportunities.

How Efficient Is Your Mailroom Operation?

A Checklist for Office Management

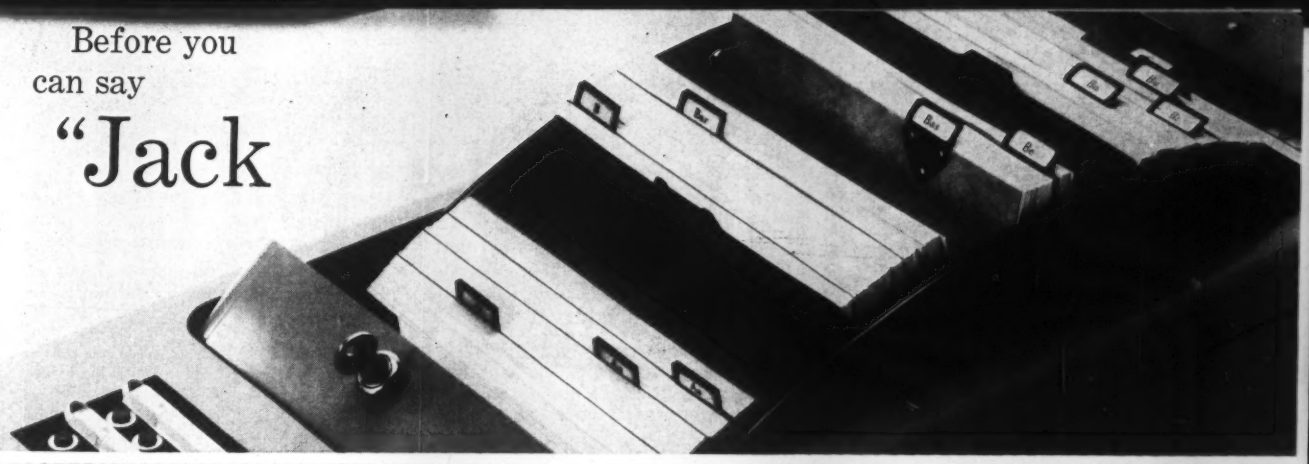
☐ Are re-usable envelopes of different colors used for interoffice communications?

☐ Are frequently written addresses (such as branch offices) printed in bulk to save time?

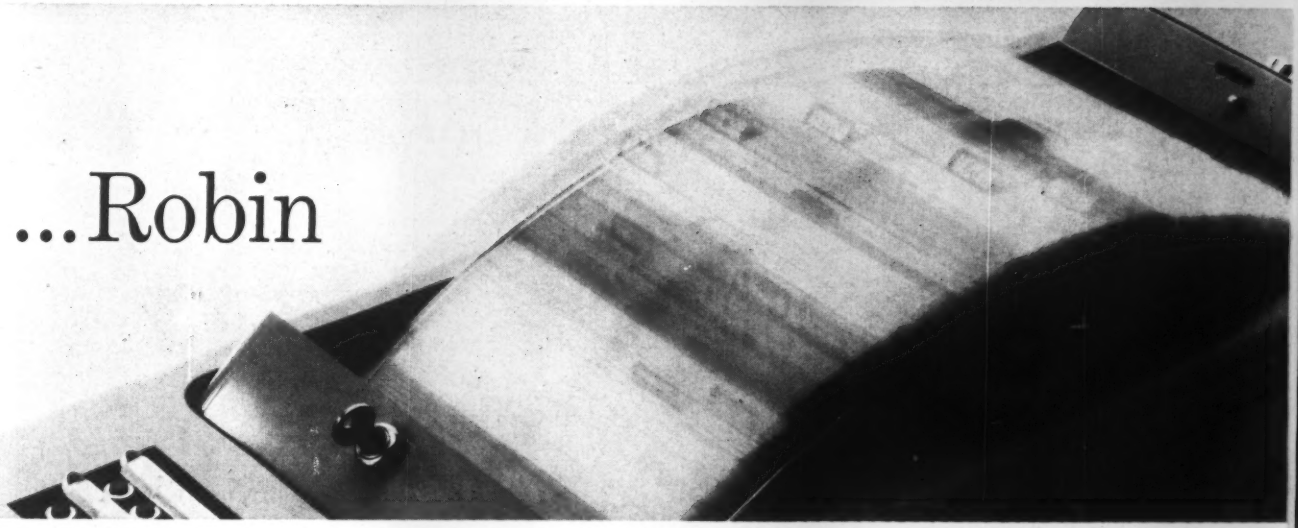
continued on page 124

Before you can say

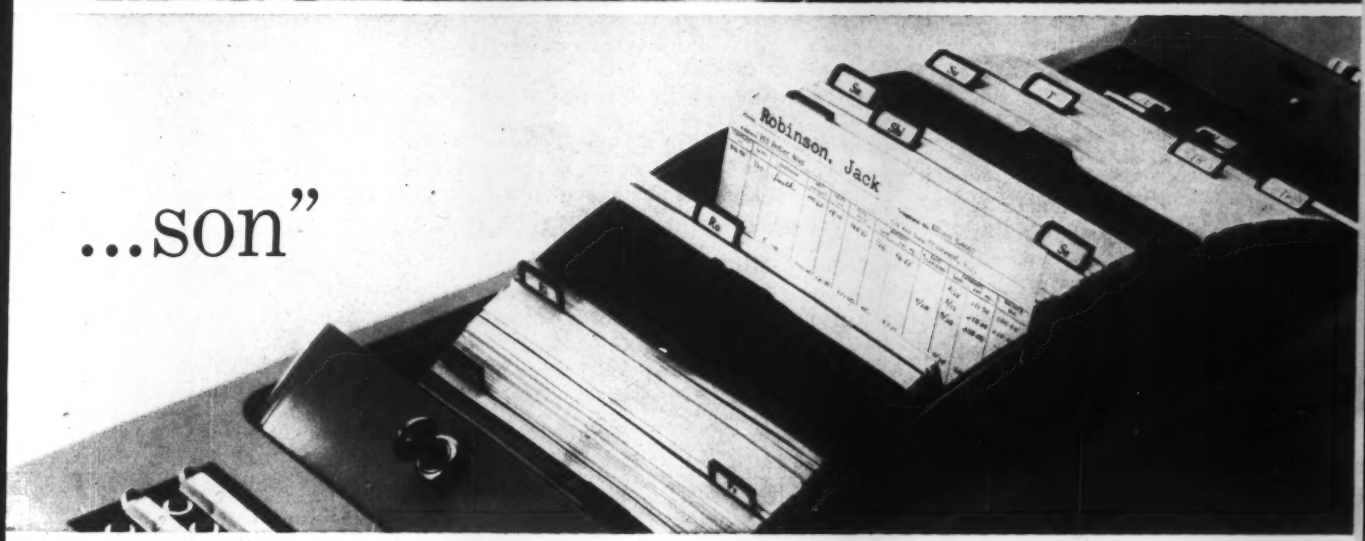
"Jack



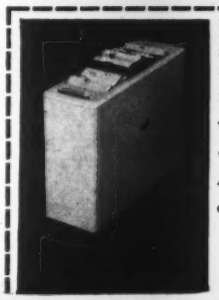
...Robin



...son"



...you've got his card. Or an inventory card, data card, account receivable. *Any* type of card-record. That's provided they're in a REVO-FILE, Mosler's amazing new rotary file. It's entirely different from old style tray files or rotaries in capacity, mobility, and ease of finding and filing. Just *drop* your cards in REVO-FILE... use the coupon, today! **Mosler Revo-File Systems Division.**



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The Mosler Safe Co.,
320 Fifth Ave., New York 1, N. Y.

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CITY_____ STATE_____

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GENTLEMEN:
I'd like to hear more about the fabulous NEW Lathem Time Recorder.
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ADDRESS_____
CITY_____ STATE_____

☐ Are office mail pickups and distribution scheduled to coincide with incoming and outgoing mail?

☐ Do mailroom employees report to work early enough to distribute mail before the office workforce and executive staff arrive?

☐ Are code numbers assigned so that postage can be charged to departments using it and cost checks and controls can be maintained?

☐ Are mailroom operations integrated with other departments, such as duplicating and filing, to permit shifting of personnel to help out with mailroom operations during peak workloads?

☐ Is office mail delivered to the post office in time to meet plane and train schedules?

☐ Are address files periodically or continuously checked for obsolete, duplicate, or incorrect addresses?

☐ Is advertising material planned to meet postal regulations as to size, weight, class?

NOTE: *For other useful mailing tips, see "How to Stretch Your Postage Dollar,"* DUN'S REVIEW, *April 1959, page 57.*

A "Sound" Approach to Office Design

TODAY'S OFFICE

In today's sealed, air-conditioned buildings, clattering high-speed machines plus chattering clerks equals distracting office clamor. Sometimes, even the noise outside is preferable. Solution: Planned sound control.

TODAY taste, technology, and economics are in juxtaposition to defeat efforts to control noise in the business office. While some engineers are meeting demands for higher speed—which automatically means more noise—others are designing buildings of ever-lighter materials, which offer little resistance to sound.

Old-fashioned heavy construction, now economically unsound because of high labor costs, was a lot healthier for our eardrums. Modern sealed, air-conditioned buildings keep outside noise to a minimum, but they create other problems.

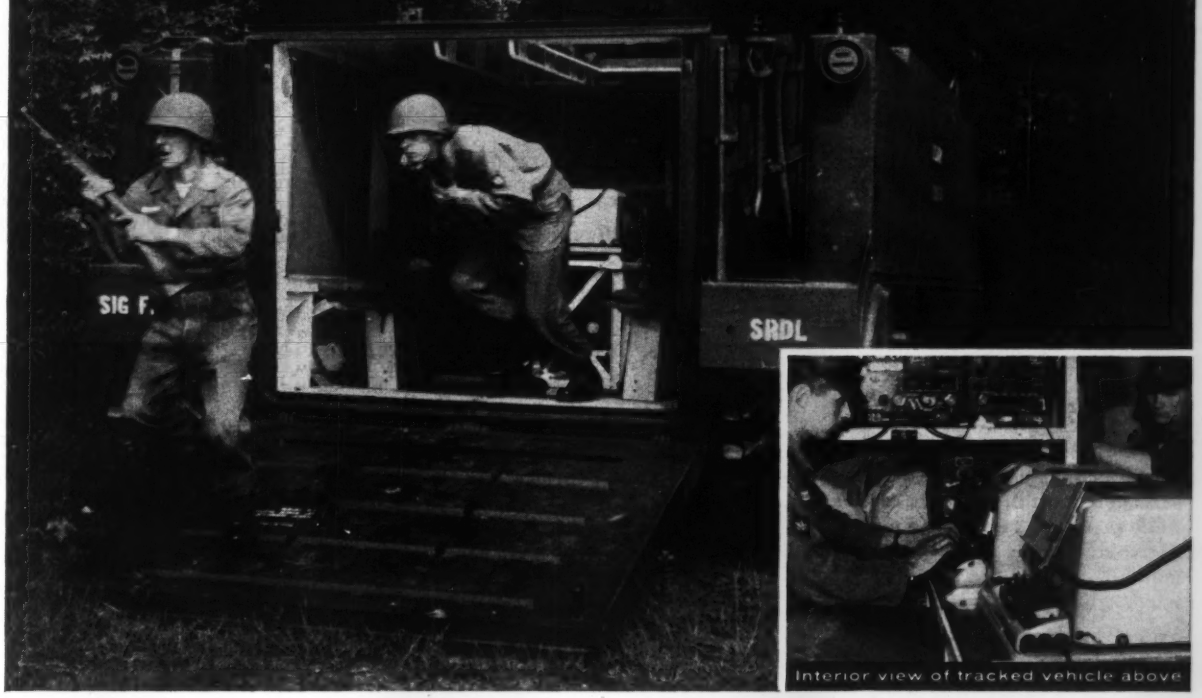
The new open-style flexible office doesn't stop noise as well as the unfashionable, heavily-partitioned office or absorb sound as effectively as the out-of-date office full of overstuffed furniture, heavy drapes, and deep carpeting.

Since too much noise hampers creativity and communication, management has a big stake in controlling clatter. And, of course, executives themselves need the privacy of con-

BUILT-IN SOUND CONTROL: *Materials on the inside of enclosure panels of a Burroughs bookkeeping machine help deaden sound. Isolating enclosure from moving parts also helps.*

COMBAT MOBILITY

telecommunications move up-front with the advance



Interior view of tracked vehicle above

Kleinschmidt teletypewriters maintain constant contact, in print, between U. S. Army command and field positions

On the go...bouncing over bunker or beachhead ...Kleinschmidt teletypewriters accurately, efficiently send and receive printed messages. Developed in cooperation with the U. S. Army Signal Corps, these units instantly provide both sender and receiver with identical data...*printed on paper!* In recognition of its quality, Kleinschmidt equipment is manufactured for the U. S. Army under the Reduced Inspection Quality Assurance Plan. This kind of proved experience is now available for unlimited advances in electronic communications for business and industry.

KLEINSCHMIDT

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trolled quiet even more than clerks.

The experts aren't in agreement as to whether or not noise also causes fatigue. Acoustical expert H. V. Munchhausen says it does, but acoustical consultants Bolt, Beranek and Newman claim that "efficiency at manual and motor tasks improves as noise rises to a surprisingly high level." Some companies, however, are convinced that noise alone can produce fatigue in office workers, thereby multiplying errors. For example, new soundproofing at the main New York offices of Stauffer Chemical Company has definitely cut worker fatigue, says controller R. N. Stillman.

Silence can be deafening

Companies are finding, however, that it's possible to become too insulated from noise. For instance, the president of a big company recently called on an acoustical engineer to solve the "noise problem" in the company's offices. The engineer found that the offices were actually *too quiet*. They were so heavily soundproofed that a pencil falling to the floor sounded like the crash of a mighty sequoia. Solution: Open some windows and let in street sounds to provide a background of steady noise to mask unexpected, intermittent sounds from jangling phones, clacking heels, and slamming doors.

Controlling the level of sound

Although it is surprising how loud and long background noise can be tolerated by most people (think back to your last cocktail party), there are limits to which the masking trick can be played. Eventually, background noise becomes just plain irritating and distracting.

When background music, individual air conditioners, or other inexpensive masking devices fail, more expensive sound control methods must be applied. These include:

- specifying building materials and acoustical devices that absorb sound
- isolating noisemakers in a separate room or area and surrounding them with sound absorbing walls or booths
- buying machines that make less noise.

Some window and central air conditioning machines are much noisier than others of the same capacity and performance. Generally, the more expensive ones make less noise.

Noise in new buildings

As is true for other environmental factors, such as ventilation and lighting, it's much cheaper to design good sound conditioning into a new building than to modify after occupancy. For example, a major company had to spend thousands of dollars on muffling air conditioning ducts in its new headquarters when secretaries complained that earthy gossip was escaping from the all-male preserves.

Since mass is the most effective antidote to noise, it would appear that the problem will naturally get worse as the price of building materials is inflated. But there is a less expensive solution. Some building materials provide much better sound control than others, and they don't cost any more per pound. The softer or more pliable materials do a better job of soaking up noise than the rigid kind.

Some movable office partitions are stuffed with a sound dampening material such as auto undercoating. If all air spaces through the partitions are sealed, they can be practically as soundproof as old-style heavy plaster

SOUND TESTING: *Office machinery makers are trying to cut down on the noise made by their machines. Here, a Burroughs engineer tests a desk calculator for noise emission.*

DO-IT-YOURSELF SOLUTION: *Deafening noise made by a battery of punch-tape reading and producing typewriters at the Clarostat Manufacturing Company, Dover, N.H., has been dampened by these booths. Lined with acoustical tile, the booths are mounted on casters so they can be rolled back when machines are serviced. The company built them for $150 each.*

New Call Director set made by Western Electric

Gives you push button telephone convenience

Here's the handiest telephone ever offered to the executive who makes—or the secretary who takes—a lot of calls. Being able to get *many* frequently-called office numbers by pushing a button . . . like an intercom . . . is just one of the conveniences possible.

To begin with, the Call Director telephone has plenty of push-buttons. How they're used depends on your specific needs. But there are enough to permit many incoming lines . . . enough to let you hold several calls while answering another. One model has a capacity of 18 buttons . . . another, with 30 buttons, lets a secretary handle up to 29 office telephones.

The compact, space saving Call Director set offers many special features all controlled by a single instrument on your desk. By simply pushing a button you can:

- Set up inter-office conference calls.
- Connect an incoming call to another office extension.
- "Add on" other extensions to incoming calls for conferences.
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The Call Director telephone is made by Western Electric for your Bell telephone company along with many other telephone products needed to help provide service—our main job as manufacturing and supply unit of the Bell System.

Western Electric
MANUFACTURING AND SUPPLY UNIT OF THE BELL SYSTEM

partitions. On the other hand, if the partitions are made of two sheets of steel mounted on a honeycomb core, they actually transmit noise.

Carpeting is very effective in noise control, and the deeper the better. Some of the new floor tiles are softer and therefore more effective in preventing noise from passing through to the rooms below.

Acoustic ceiling tile can be useful as long as its effectiveness is not destroyed by painting. Moreover, in much of the new construction, it is important that the tile in a false ceiling absorb on *both* sides, because a lot of noise now skips through overhead utility space.

Reconditioning old buildings

If a company is moving into an existing building, it has a different problem. In general, careful layout and grouping of noisemakers is the best answer where the building cannot be modified cheaply.

Ducts call for a lot of care when air conditioning is added to an older building. Lining the ducts with sound-absorbing material or adding baffles keeps irritating noise from being carried from room to room.

Noisy machinery can be grouped and isolated in one room. However, the room itself usually must be made sound absorbent by the use of acoustical tile or carpeting. Otherwise, the operators will be under an unbearable bombardment of noise.

The "tissue-paper" construction in some of the new commercial office buildings is sparking an unusual trend in rental agreements. Alert tenants are insisting on "noise transmission clauses" in their long-term leases. The clauses state that if the landlord rents an adjacent space to a noisy tenant, the landlord or the noisy neighbor will bear the cost of cutting down sound transmission.

The suppliers at work

The manufacturers of office machinery are well aware of the noise problem and are taking various steps to reduce the noise made by their products. These include:

- making the outer cases air-tight and eliminating mechanical contact with working parts
- lining the cases with sound-absorbing materials (see photo)
- substituting quiet nylon gears for metal ones
- mounting equipment on rubber
- slowing down the machinery.

Pitney-Bowes, Inc., discovered that one of their mailroom machines ran much quieter when it was slowed down from 175 to 150 operations a minute. Sales of the machine have gone up, proving that many office people are willing to sacrifice a little speed for the sake of peace and quiet.

Noise control in American offices is still pretty much on a haphazard basis. Some company executives are demanding good control from their architects and office designers. But most do not think of it or think of it too late. Architects and building contractors rarely do anything about noise control on their own, because it usually costs more money and certainly takes more time and skill. Fortunately, acoustical experts have developed all sorts of formulas for predicting from architectural drawings whether a room will be plagued by poor sound control.

To control the flood of paper, more office workers are manning more and bigger machines. To maintain their efficiency, management has to dam instead of merely damning the rising noise.

Workforce in Transition: Trends in White-Collar Jobs

Despite new advances in office technology, management's basic problem is still people. And new solutions will be needed in the decade ahead as the white-collar ranks continue to grow in size and importance.

ALTHOUGH little noticed at the time, the number of white-collar workers edged ahead of the blue-collar force for the first time three years ago. If this new pattern of growth continues, as seems very likely, top management will have to make some drastic changes in its manpower planning.

Among the many authorities who believe that the pattern will become more pronounced in the next decade is Seymour L. Wolfbein, Deputy Assistant Secretary of Labor, who recently forecast a sharp increase in the proportion of white-collar employees in the workforce.

Here is how Wolfbein sees the composition of the workforce by 1965:

- If previous trends continue, professional personnel may total close to 8 million, accounting for better than one in every ten employed Americans.
- Clerical and sales people, who already account for one out of every five workers, will also increase noticeably.
- An approximate increase of 10 million in the labor force by 1965 will be distributed as follows: about 4.5 million persons 14 to 24 years of age; only about one-half million persons between 25 and 44 years of age; and

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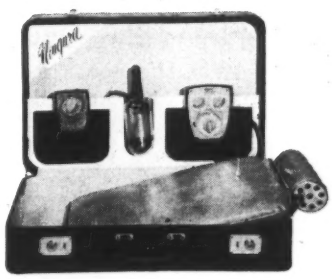

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Simply plug the CARSSAGE pad into a car's cigarette lighter and help relieve travel fatigue, help keep wide awake and alert for safer more enjoyable driving.

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about 5 million persons 45 years of age and older. More than half the total additions to the workforce will be women.

More women and older workers

Wolfbein adds: "The so-called older worker is going to be a major supplier of labor in the decade ahead. Also, women will comprise more than half our total labor supply increase. Age or sex barriers to employment would simply cut us off from worker resources—a poor policy at any time, and doubly so in a decade when workers will be in such short supply."

These trends will have a strong impact on both union and management strategy and action as business moves into the Soaring '60's.

For the 1947–57 period, the Government reports production workers increased about 1 per cent, while nonproduction employees surged ahead 55 per cent.

A Princeton University study of 50 companies by Dr. Frederick Harbison, director of industrial relations at Princeton, and Samuel E. Hill, his research associate, reveals that most companies surveyed failed to take into account the changing composition of their own workforces when planning for the future—"which is tantamount to assuming that there will be no major innovations," the researchers declare.

Needed: the long look

"For the most part," say Harbison and Hill, "companies are preoccupied with their immediate requirements and with short-run development projects. In long-range manpower planning, most companies really do not know where they are or whither they are tending."

John R. Crowley, the manager of office procedures for the Hotpoint Company, Chicago, took a searching look at the dynamic changes already under way in the white-collar workforce. As reported by the National Office Management Association, these are the changes he predicts:

- In the next ten years, key-punch operators and verifiers will be almost completely eliminated, since repetitive copying of information must be

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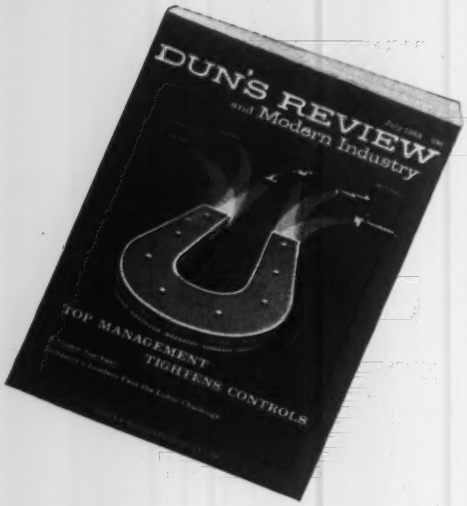

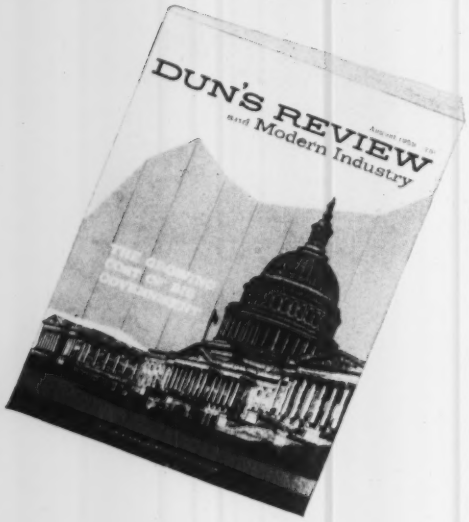

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stopped if the office operation is to be made fully effective.

- There will be more use of dictating equipment and less use of secretaries —and probably more male secretaries, since the job will be not unlike that of executive assistant.
- As a result of mechanization, there will be less need for clerical workers with only manual skills. This may result in displacement, relocation, and retraining problems, and adjustment of the workforce by normal turnover and attrition, but not a substantial cut in the total number.
- White-collar jobs will be upgraded, and consequently there may be a shortage of people with specific skills. Management may need to provide more training or stiffen its educational requirements. Engineers and mathematicians will be moving into office management increasingly, too.
- The problems of keeping higher-skilled and better-trained white-collar workers will be intensified, and there will be more emphasis on pay, incentive, and good management.

Summing up these probabilities, Crowley says, "In the next ten years, the office will become a data processing center, a nerve center, and there will be less compartmentalization of clerical people in sales, production, finance, and engineering."

Job for the future

The growing importance of a new profession — programing — has been pointed out by Cuthbert C. Hurd, program manager of IBM's Advanced Systems Development Division. As Hurd sees it, automation will create new professional opportunities, result in position enlargement, and encourage cooperation between professional people, even though they may work in intensely competitive industries.

In automatic information handling, many positions will be enlarged and intellectually demanding, Hurd believes. A case in point occurred in IBM's Poughkeepsie plant five years ago, when the production control perpetual inventory system was first placed on a computer. Many of the plant inventory department staff continued in inventory assignments, but two differences showed up. First, de-

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partmental productivity greatly increased because of the faster availability of more accurate information. And, secondly, the nature of the work changed greatly. As Hurd describes the change: "The work is now primarily inductive in character and consists of arriving at plans of action after the 705 computer has indicated which parts require attention. The position has been enlarged with a resulting increase in satisfaction."

The opportunities of programing

A U.S. Department of Labor study of the effect of automation on office worker employment explored the opportunities of programing in detail. Some key conclusions were these:

- Several thousand programmers were employed in 1958, chiefly in metropolitan areas where corporate headquarters and Government agencies are located. A company with a single large computer may employ from ten to 30 or more programmers, while the company with a medium-size computer may use only two or three.
- Employee selection and training programs for this job present personnel development problems. According to the Government's study, most companies check aptitude for programing with general intelligence tests and special tests that measure the ability to think logically and to do abstract reasoning.

Those scoring highest are then interviewed. Personal characteristics that have been found crucial to this new skill include patience, a logical and systematic approach to the solution of problems, and the ability to work with extreme accuracy and close attention to detail. Imagination is also an asset, since programmers often have to devise new ways to attack a problem. The recent development of automatic programing will probably do much to open the job to persons other than college graduates, who now hold down most of the programing jobs.

Women on the machines

An interesting trend is noted by Rita McCabe, manager of systems service for IBM's data processing division:

> Programing is a major field for women. Vassar, for example, conducts a well-attended course in computer programing and technology. Many of these students become IBM system service representatives. And some of our most notable achievements—such as translation of Braille on an IBM 704—are developed by these women.

So far, there is little evidence that a large part of the clerical workforce will be displaced by data processing systems. New equipment is often installed to handle greater amounts of increasingly complex data and to provide additional, more timely reports. Therefore, the net effect may be greater output per person and a declining rate of growth in clerical employment as more new equipment is used.

Reprints of this Special Report to Management, "Today's Office—Tomorrow's Opportunity," are available at 30 cents each from Readers' Service Department, Dun's Review and Modern Industry, 99 Church St., New York 8, N.Y. Payment should accompany order.

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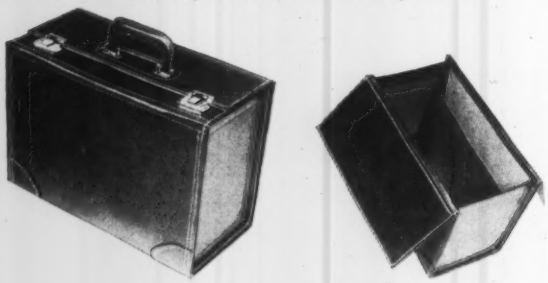

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TODAY'S OFFICE

Clerical workers in jobs requiring the use of considerable judgment or contact with other people—secretaries, receptionists, claim clerks, complaint clerks, and bill collectors, to name a few—are least affected by automation. Stenographers also are not likely to be much affected, according to the BLS.

The character of many jobs will change, and the demand for workers in computer-related jobs will continue to grow. Many of the new jobs—methods analyst, programmer, computer-console operator, and so on—will generally pay better and require more skill than most clerical jobs.

Outlook for the future

The dynamic changes now going on in the white-collar workforce are forcing management to map out a realistic strategy for the future. Here are some of the factors which now need careful review and consideration:

- The growing worker shortage in the 25-34 age group, and the number of middle-aged women returning to the workforce. These women have 30 potential years of service ahead of them and marital responsibilities behind them, in many cases, but may need special training and increased job opportunities.
- The need for new skills, particularly in automation, that will require training, adequate pay, strong incentives, and a new look in management development programs.
- Problems of technological obsolescence in some white-collar jobs, which may require more direct action, such as transfer and retraining, beyond normal turnover and attrition.
- The impending drive of organized labor to unionize more white-collar workers, particularly in the repetitive and routine jobs at the lower levels being created by mechanization.

These are only a few of the new problems and challenges that typify the changes taking place in the white-collar workforce. The managements that recognize them now—and plan their offices of the future accordingly—will be best prepared to profit from the coming transformation.

A list of the Editorial Round Table participants will be found on the next page.

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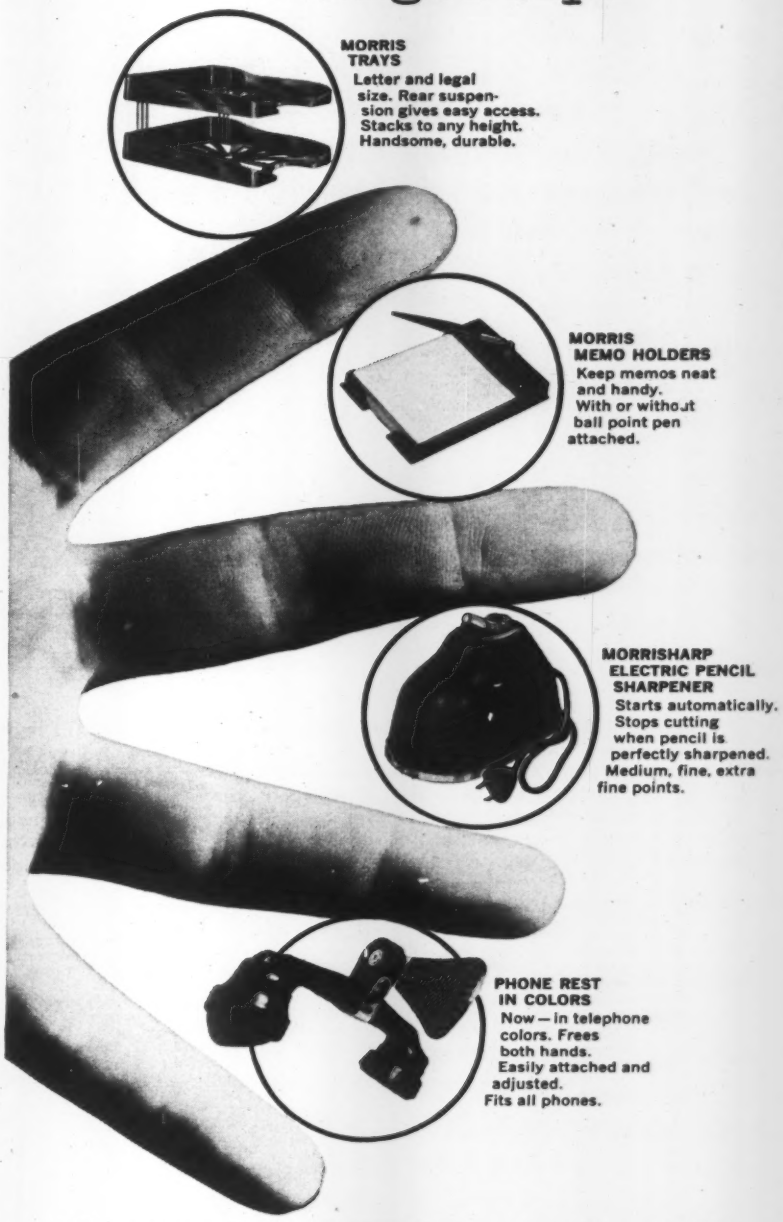

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TODAY'S OFFICE

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IN THREE informal day-long round tables conducted by DUN'S REVIEW, 100 executives from industrial and commercial companies, from the office equipment industry, and from consulting firms freely exchanged opinions and experiences in dealing with the problems of improving office operations.

Among the conclusions on which they generally agreed:

- Efficient office operations depend on top management's recognition of the importance of paperwork and also on management's willingness to define precisely its own information needs.
- The next decade will bring sweeping changes in the methods of office operations and also in organization of these operations.
- Better information for management and better service to customers are more important results of improved office operations than are the immediate savings in clerical costs.

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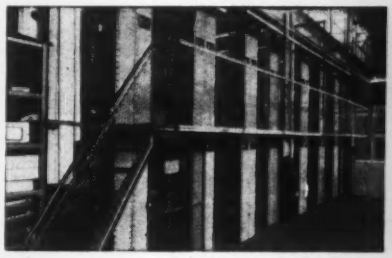

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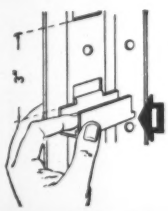

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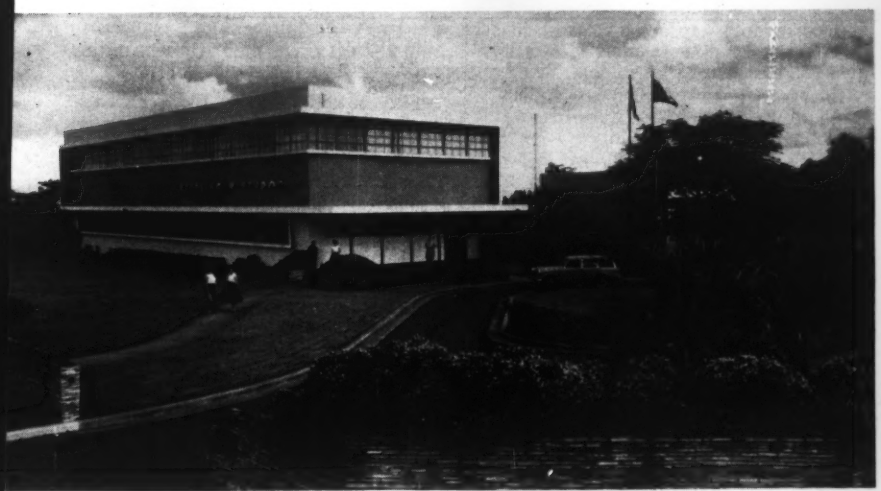
ALEXANDER O. STANLEY

Europe Basks in Travel Boom

More American travellers are spending more money and seeing more countries than ever before, according to the U.S. Department of Commerce. Recently released tabulations by its Office of Business Economics show that foreign travel expenditures by footloose Americans passed the $2 billion mark last year. Judging from recent passport applications and heavy sea and airline bookings, they'll go even higher this year. The overseas carriers and foreign hotels, bistros, and bazaars have been engulfed in a flood of tourist dollars. U.S. flagships, still the preferred vehicle for American jaunts abroad, prospered to the tune of $359 million. After subtracting $825 million spent by their nationals in visits to the U.S., the coffers of many countries were enriched by an over-all total of almost $1 billion, easing trade imbalances in some cases and building up exchange reserves or helping to service funded obligations in others.



"OPERATION BOOTSTRAP": *New plants like this one dot the Puerto Rican landscape.*

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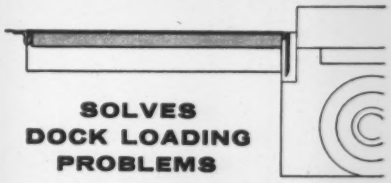

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New Kelley ADJUST-A-LIP Dockboard allows trucks to back up to dock safely because special lip folds down to eliminate possible damage to end loads or truck bodies. No cumbersome operating arms to block trailer door openings and stall operations. Dockboard will not suddenly go up, or down, as truck backs in, thus preventing possible damage to closed overhead doors and assuring safe cross traffic movement. When truck pulls out ADJUST-A-LIP automatically returns to protected position behind dock bumpers.

FREE KIT "How To Plan A Profitable Truck Dock Operation"

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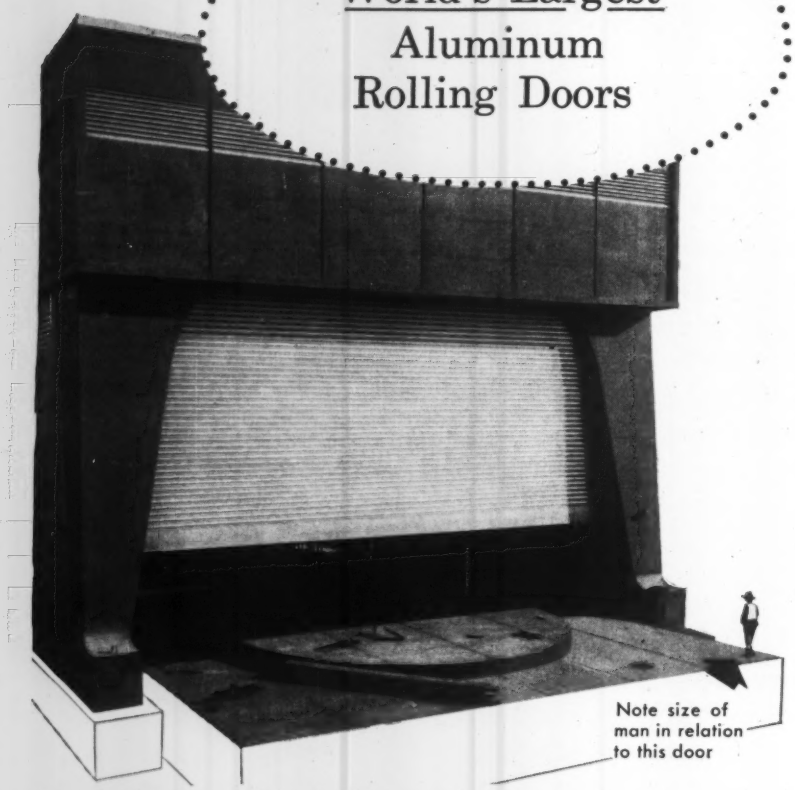

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In 60 years of making metal rolling doors for industrial and commercial openings of every kind, we believe these are the largest ever made of aluminum.

Two doors 48 ft. wide and 39 ft. high enclose opposite ends of this 300-ton traveling gantry crane at the Robert H. Saunders — St. Lawrence generating station of the Hydro Electric Power Commission of Ontario. Similar Kinnear doors are used in New York's Robert H. Moses Power Plant, also part of the St. Lawrence project.

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The space-saving efficiency and all-metal protection of Kinnear Rolling Doors cut costs in all kinds of openings — from counter-top areas to large industrial service doorways, as shown in the sketches below.

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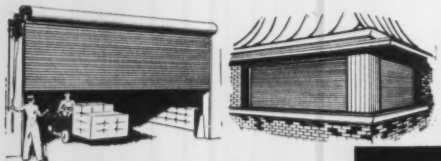

Kinnear Rolling Doors are built any size, of steel, aluminum or other metals. Motor operation, with push-button control, if desired. Write for full details.

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Saving Ways in Doorways

The travel tabulations reveal some interesting facts:

- Americans made 1,398,000 trips overseas in 1958.
- More than four of every ten travellers overseas went to Europe; an equivalent ratio went to the West Indies.
- South America and the Far East remain lightly travelled tourist spots. Combined, they attracted only about one in every twelve voyagers abroad.
- Two out of every three Europe-bound travellers went by air, more often than not riding economy class.
- Expenditures by Europe-bound tourists averaged $1,500 per person, with slightly more than one-third absorbed by transatlantic fares.
- In the distribution of travel dollars, Canada held its No. 1 spot with $323 million; Mexico was second with $319 million; Italy, France, and the United Kingdom, in that order, were in the $90 to $99 million range; Germany got $64 million, with Switzerland and Benelux in the $40 million bracket.

An interesting illustration of the effect of jet-propelled overseas tourism on foreign market mores:

The inbred respect of French merchants for cash has yielded to the invasion of the credit card system under the spur of hordes of American card carriers. Now some 700 Paris restaurants, stores, and even one taxi company are accepting the signed tab in lieu of francs from some 5,000 holders of French credit cards. The French system is patterned after several well-known American systems.

Management Looks Abroad

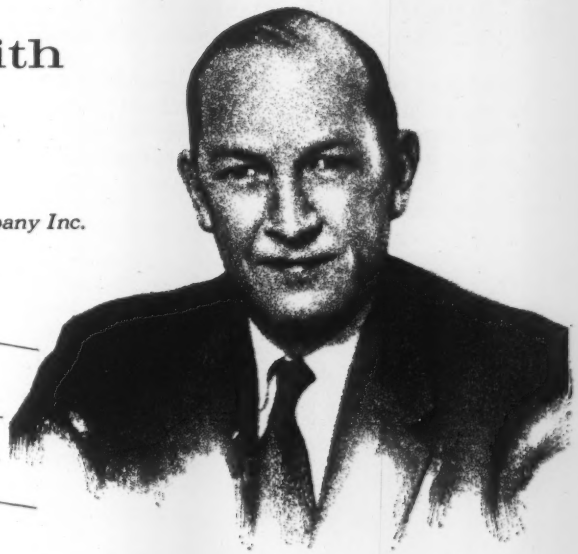
Record capital investments overseas by American business are generating record investment opportunities abroad.

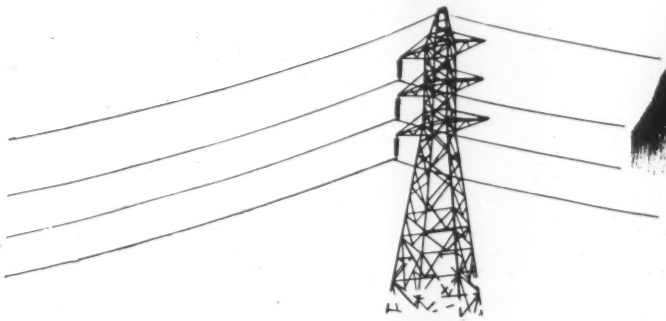
This is reflected by the high volume of individual inquiries processed by the Bureau of Foreign Commerce in its publication, *Foreign Commerce Weekly*. In the year ended June 30, 1959, a record total of 2,061 business leads were published in that paper. Involved were investments roughly computed at $2 billion. In comparative terms, this represents a 73 per cent jump over 1958, when 1,190 overseas inquiries were filed. Here are the significant patterns:

- New U.S. investments by industry abroad are increasing to a rate in excess of $4 billion annually, compared with an average annual outflow

Looking Ahead with *Latin America*

by Henry B. Sargent, President
American & Foreign Power Company Inc.





Private enterprise demonstrates daily its confidence in Latin America. Investment plans are going forward in many fields to supply the goods and services to meet tomorrow's needs.

The economic growth of Latin America in recent years has been truly remarkable. The area's natural resources are among the most abundant in the world. Forward-looking plans for industrial development promise even more growth in the future. Many groups, both public and private, are working to strengthen the traditional partnership between the Americas—a partnership based on mutual need, mutual advantage and mutual respect.

The companies of our System begin here a series of messages which will point to the sound progress being made today in Latin America. As Latin America grows, demand for electric light and power grows. In supplying this need—now and for the future—in the areas they serve, the companies of the American & Foreign Power System join with many other companies in *looking ahead with Latin America.*

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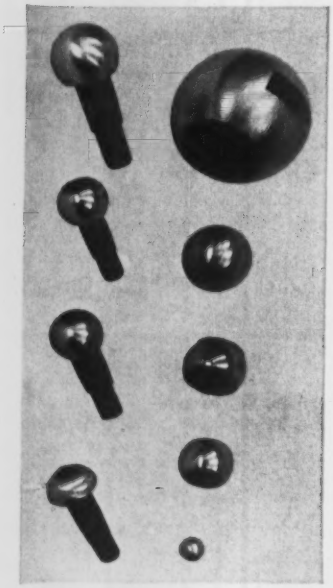
WHY PROCESSING TRUNCATED SPHERES BY MICROMATIC METHOD IS FASTER, ECONOMICAL AND MORE ACCURATE

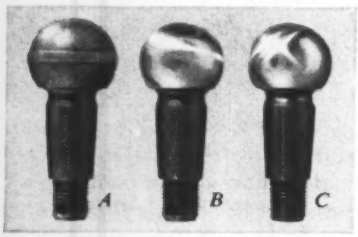
Machining of accurate truncated spheres has long been a design and production problem. The root of the problem lies in the fact that as a single point tool generates a spherical surface, the surface speed varies widely. To eliminate this problem, Micromatic has developed a fast, two-operation technique that assures uniform surface speed when machining any type of truncated sphere.



The above ball studs and other truncated spheres are typical of parts that can be processed faster, to closer tolerances and at lower cost with Micromatic machines and tooling.

First, a special cutting tool removes the bulk of excess stock from the forged part. For instance, here are the results obtained by a major automotive manufacturer: on a 1¼" diameter ball stud, approximately .060" of stock is removed from the ball in a 15-second floor-to-floor cycle. A finish of 40-60 microinches rms is obtained, total error in sphericity is held to .0005" and size is controlled within .001".

Microhoning is the second operation. In a 24-second floor-to-floor cycle, it removes final .002" of stock from the ball to generate required size, a finish of 6-10 microinches rms, sphericity within .0003" and a functional cross-hatch lay pattern.



Typical ball stud processing—(A) heat-treated forging, (B) after Micromatic cutting tool operation, (C) finished ball stud after Microhoning.

See facing page for further details on how Micromatic processing of truncated spherical surfaces secures the above results.

MICROMATIC HONE CORP.
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of $3 billion recorded in recent years.

- Sixty per cent of the inquiries tabulated called for capital investments, in the form of machinery and technical know-how to expand or modernize factories or install new industries.
- Patent licensing agreements, a type of international partnership that usually gives more latitude in investment test and trial than fixed capital commitments, are coming in for a lot of interest. Almost one in every three inquiries originating abroad involved some sort of licensing agreement. Most know-how requests come from companies operating in the newly formed European Economic Community. But the newly formed "Little Free Trade Area" (see DUN'S REVIEW, August 1959, page 64), spearheaded by Great Britain and including British Commonwealth elements, also has been showing considerable interest in this type of business combine.
- In the Far East, proposals for investment have been balanced between interest in funds and machinery for new enterprises and modernization of existing plants. Here, India is one of the prime seekers of U.S. capital. And Thailand is now offering new incentives to private industrial investment with emphasis on agricultural diversification and the creation of small industrial enterprises.
- In Latin America, Brazil, Argentina, and Colombia showed the heaviest concentration of proposals to develop new industries in such diverse areas as food processing, cement, medicinals, and fertilizers. Especially encouraging has been the expansion in Argentina's oil industry since investment bars to foreign developers were let down about a year ago. U.S. drilling and pipeline companies are all on or ahead of schedule. Self-sufficiency in oil requirements is expected by 1964, possibly earlier. So far, $224 million has been earmarked for new oil investments through the next five years. Although it is short of the $1 billion originally envisaged by local government authorities, it is at least a big step toward the goal of conserving a slender foreign exchange income, now drained by payments for oil imports.

Even more significant, exceptional opportunities for huge growth in the immediate future are foreseen for Latin America's chemical industry by the Economic Commission for Latin America. By 1965, chemical products demands are projected at $4.5 billion, perhaps doubling in the following ten

years. Easy access to and abundance of basic raw materials, especially in the petrochemical field, are key factors. Main hindrance to this expansion is the need for broad regional, as opposed to narrow national, markets. But an offset to this problem exists in recent negotiations toward development of two common market blocs (see DUN'S REVIEW, June 1959, page 182) involving Argentina, Brazil, Chile, and Uruguay as one trade combine and Ecuador, Venezuela, and Colombia as a second market.

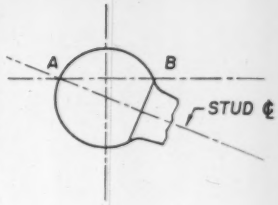
Puerto Rico Pushes Ahead

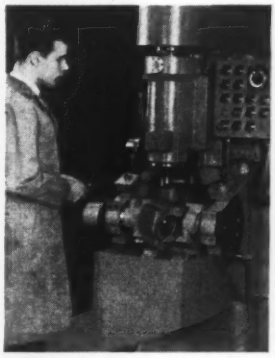
Puerto Rico's "Operation Bootstrap" has scored big gains in the past decade. For proof, look at these extracts from the 1958 Annual Statistical Report of the (EDA) Economic Development Administration, Commonwealth of Puerto Rico:

- In the ten year period ended in December, 1958, total industrial employment jumped from 4,146 to 35,837 at EDA plants.
- Average weekly payrolls expanded from $57,583 to over $1 million.
- From a modest group of 63 plants, the present complex of EDA plants has grown to 523 units.
- Between 1947 and 1958, a total of 168 plants were closed, or one in every four of 662 starts—not a bad record compared to other overseas areas, where the average is one close in every three starts.
- Of 388 concerns filing income tax returns at the end of 1957, almost three out of four reported plant operations in the black. They showed consolidated profits of $45 million on consolidated net sales of $223 million, excluding contract income of $11 million.
- On the red-ink side were 118 businesses, accounting for slightly less than 10 per cent of total net sales. On a volume of almost $23 million, their combined deficits added up to a relatively modest $3 million. Most losses were sustained by concerns with dollar assets below $250,000. Numerically, this group was the largest, accounting for half the companies surveyed. In higher asset brackets, the proportion of deficit operating ventures dropped sharply. At the 1 million- to 10 million-dollar level only five of 44 companies reported unprofitable results.
- Combining all asset sizes among profitable operations, the net return on the average equity invested was

HOW PROCESSING TRUNCATED SPHERES BY MICROMATIC METHOD ASSURES ECONOMY, SPEED AND ACCURACY

As an example, here's how Micromatic equipment in two fast operations machines 1¼" diameter forged ball studs. For both operations, the ball stud is located on the taper, clamped in the thread and positioned on an inclined axis. Thus the center of the ball crown (A) and the intersecting point of sphere and shoulder (B) are in a horizontal plane.

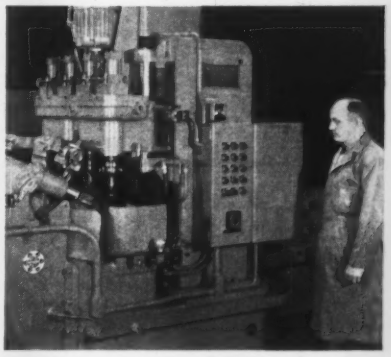




FIRST OPERATION: *Cutting excess stock from forged ball stud.*

The first machining of ball stud is a cutting operation. A special Micromatic cutting tool, that is U-shaped at the cutting end, is used to assure constant cutting speed over every point of the ball. Two round carboloy blades are clamped in the tool—clamp also acts as a chip breaker. With blades positioned in a counterbore, no adjustments are required. Size is controlled within .001" by depth of feed, set by an adjustable stop. Blades may be turned or reversed to give several usable cutting faces. Also, since they are throw-aways, these blades offer additional economies. Approximately 2,000 balls are machined with each set of blades. In a 15-second floor-to-floor cycle, the cutting operation is completed—total error in sphericity is held to .0005".

The ball is then Microhoned. The combination or rotating motions of workpiece and the special Microhoning tool results in a functional cross-hatch lay pattern and makes the abrasive self-dressing. In a 24-second floor-to-floor cycle, Microhoning generates required size, sphericity within .0003" and a finish of 6-10 microinches rms.



SECOND OPERATION: *Microhoning ball stud to secure final size, sphericity and finish. Single spindle machines also available.*

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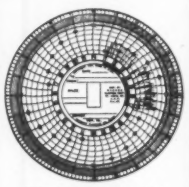

CHART TELLS ALL

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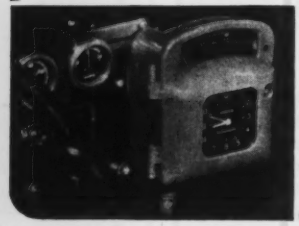

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surprisingly high: 40 per cent. In terms of total capital employed, a 19 per cent yield was reported. When losses were taken, the net deficit was reported at a combined 30.4 per cent of average equity, but only 7.5 per cent of total capital employed.

The detailed report not only reflects the solid accomplishments of the EDA but also provides useful measures for American management weighing investment decisions abroad. This is a type of yardstick that other overseas government agencies, anxious to attract industrial capital, could use.

Spain Bids for Business

After almost a quarter of a century, Spain is emerging from its economic shell and making a strong bid to attract foreign capital. This market, moribund until now, is worth a second look. In quick order, Spain has instituted these economic reforms:

- Devalued the peseta from 42 to a more realistic 60 to the dollar.
- Started to participate in the Organization for European Economic Cooperation, which recently accepted Spain as its eighteenth full member.
- Agreed to open the door to more foreign goods and more foreign capital and promised not to discriminate against the dollar area in her foreign buying. This will involve expanding to global dimensions at least $50 million worth of her trade in the months immediately ahead. Freed from quotas and other restrictions are raw materials and spare parts. (Estimates of all private trade, including shipments that in the past evaded government controls, are placed as high as $250 million.)
- Promised to put her economic house in order with the aid of recent arrangements for international credits of some $400 million.
- Prepared and released a new investment code to provide a healthier climate for foreign capital in both industry and mining. Already in effect is a new liberal oil law which has encouraged some 20 foreign oil companies, including at least ten major U.S. concerns, to submit bids for exploration concessions. Spain now spends $130 million annually on oil imports.

The entire scheme of economic reform will be on probation during its first year, so far as the Spanish government is concerned. If it works, an important market will be reopened for U.S. investments and exports. END

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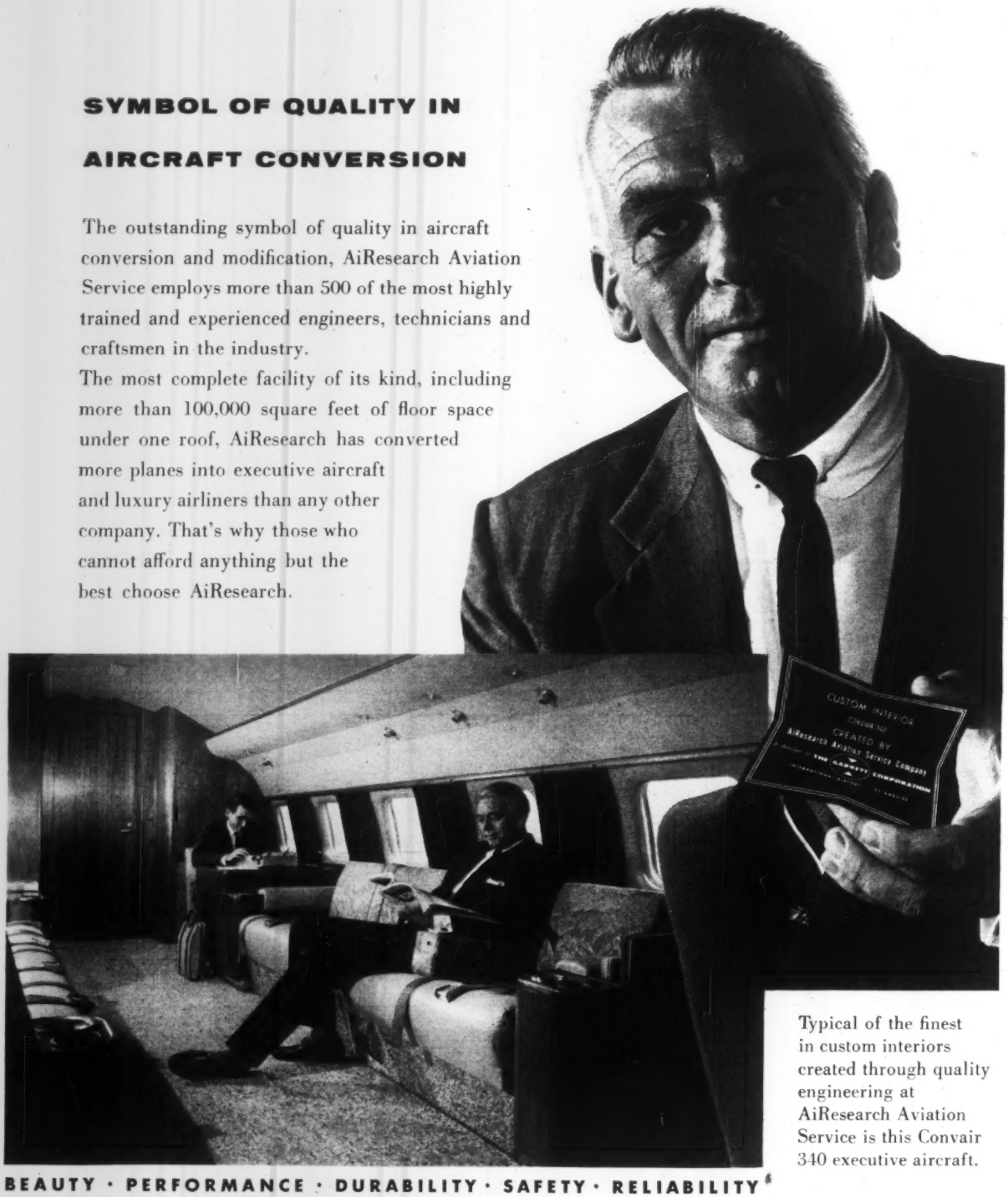

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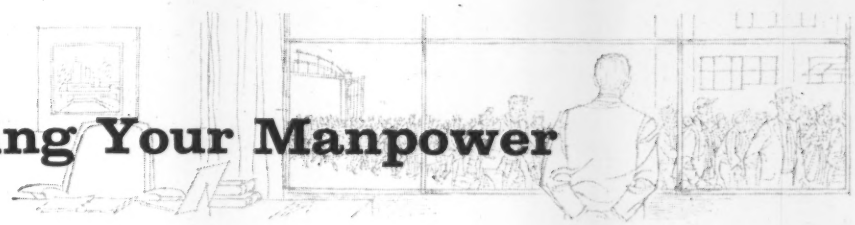

Managing Your Manpower

LAWRENCE STESSIN

- ✔ *More than 2.5 million American workers are covered by company-sponsored stock-purchase plans.*
- ✔ *To encourage rank-and-file participation, many company plans protect jobholders against a price tumble.*
- ✔ *Benefits of employee ownership: loyalty and improved morale. Drawbacks: high administrative costs.*

THREE miles out in the Gulf of Mexico, a power boat slowly edges up to an offshore oil rig. A deckhand slings a bundle of newspapers to the deck of a barge. A "roughneck"—respectable slang for the men who drill for oil—spreads one of the papers on a table, and as others look over his shoulder, he moves a stubby, grease-stained finger down a column of figures. He is checking batting averages, not of baseball players, but of his company's standing in the stock market. He works for the Texaco Company, one of the 800 companies which have made their workers limited business partners through employee stock purchase plans.

Participation in "people's capitalism" has reached the bandwagon stage. More than 50 per cent of the companies listed on the New York Stock Exchange now have stock purchase plans for their rank and filers. The NYSE's census of stockholders recently completed calculates the number of employees covered by company-sponsored stock plans at more than 2.5 million—a 27 per cent increase over 1956.

This renaissance of employee investment in common stocks through company enticements is cause for concern, however, for those who remember their financial history. Stock purchase plans also flourished in the 1920's. But the 500 full-fledged plans then in operation withered away when prices tumbled in the debacle of the depression and employees became disillusioned and bitterly critical of management's judgment and leadership.

Built-in price protection

This time around, business men hope to avoid such damaging employee reaction by writing plans to cushion jobholder losses. For example:

- Many companies sell stock at 85 per cent of the market price, thus giving the worker some margin of protection against a price tumble.
- Some companies contribute one free share for every five purchased.
- Under other plans, an employee can resell his stock at the original price at any time within ten years after buying. The company makes good the purchase price.
- A limitation is placed on the number of shares an employee can buy.
- Employers are giving the facts about stock plans in less rosy terms.

When Inland Steel Company offered a stock purchase plan to its workers, Joseph L. Block, president of the company, wrote a note to each employee in which he said:

"Our program is voluntary. No employee need participate. In fact, I must caution you that the purchase of common stock is a risk which might result in loss as well as profit. Furthermore, it is suggested that each employee carefully consider the best use of his savings, giving due weight to such important alternatives as Government bonds, a home, life insurance, and other investments."

Some companies — among them American Motors, Carborundum Corp., and Consolidated Foods—are advising employees on the importance of diversification of portfolios by purchasing common stocks of other companies.

Behind today's trend

In view of the historical denouement of stock purchase plans, why is the current revival so widespread and spirited? An analysis by DUN'S REVIEW of the prospectuses of the employee stock plans of 70 companies reveals these objectives:

- Promote a habit of thrift and saving among employees.
- Reward workers for faithful service and make it possible for them to share in the company's prosperity.
- Secure employee good will and stimulate greater efficiency and loyalty to the company by making the employee a part-owner of the business.
- Help raise new money. The increasing difficulty in raising venture capital from routine sources motivates an attempt to broaden the base of ownership by selling stock to persons of limited means.
- Encourage among employees an

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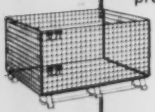

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understanding of the management viewpoint and a feeling that their best interests lie in remaining with the company and working for its success.

These are official reasons. There are other motivations. One is keeping up with the industrial Joneses. Management is as conformist in its drive for status as any suburbanite. Two years ago, the decision of the United States Steel Corp. to launch a stock purchase plan for its salaried workers set off a chain reaction which hasn't yet run its course.

Another reason is the idea stock plans may stave off union pressure for the guaranteed annual wage or its variations. When the auto industry capitulated and granted an unemployment insurance plan, stock purchase programs for employees took a sharp rise in other industries. There is some indication, too, that stock ownership by union employees—and there are 1,335,500 AFL-CIO members who double in brass as small-time capitalists—acts as a brake against hasty strike action by union brass.

Admits one union leader:

"It's been my experience that a stock purchase plan won't keep workers from hitting the bricks when the issues are important to them, but those who own stocks seem to have a greater desire to settle or compromise."

Unionists and capitalists

But so far this new worker attitude hasn't sparked any concerted union opposition to employee stock plans. Three years ago, organized labor won an important victory in this field when the National Labor Relations Board and the courts ruled that stock purchase plans are wages, as such, and are subject to collective bargaining under the Taft-Hartley Act. Since then, many union demands have included proposals for such supplementary "wages." But these demands come primarily from younger, industrial-type unions. The craft organizations like the machinists, the plumb-

Labor Tips and Trends

The Strike Pail: A new twist in union communications showed up when workers of the Murphy Diesel Company, Milwaukee, Wis., plastered their lunch pails and tool boxes with strike notices. Management disapproved and disciplined the communicators. The National Labor Relations Board, in a switch of policy, ordered the workers reinstated on the grounds that these messages were privileged. A Federal court of appeals refused to go along, however, and said in blunt, unlegal language:

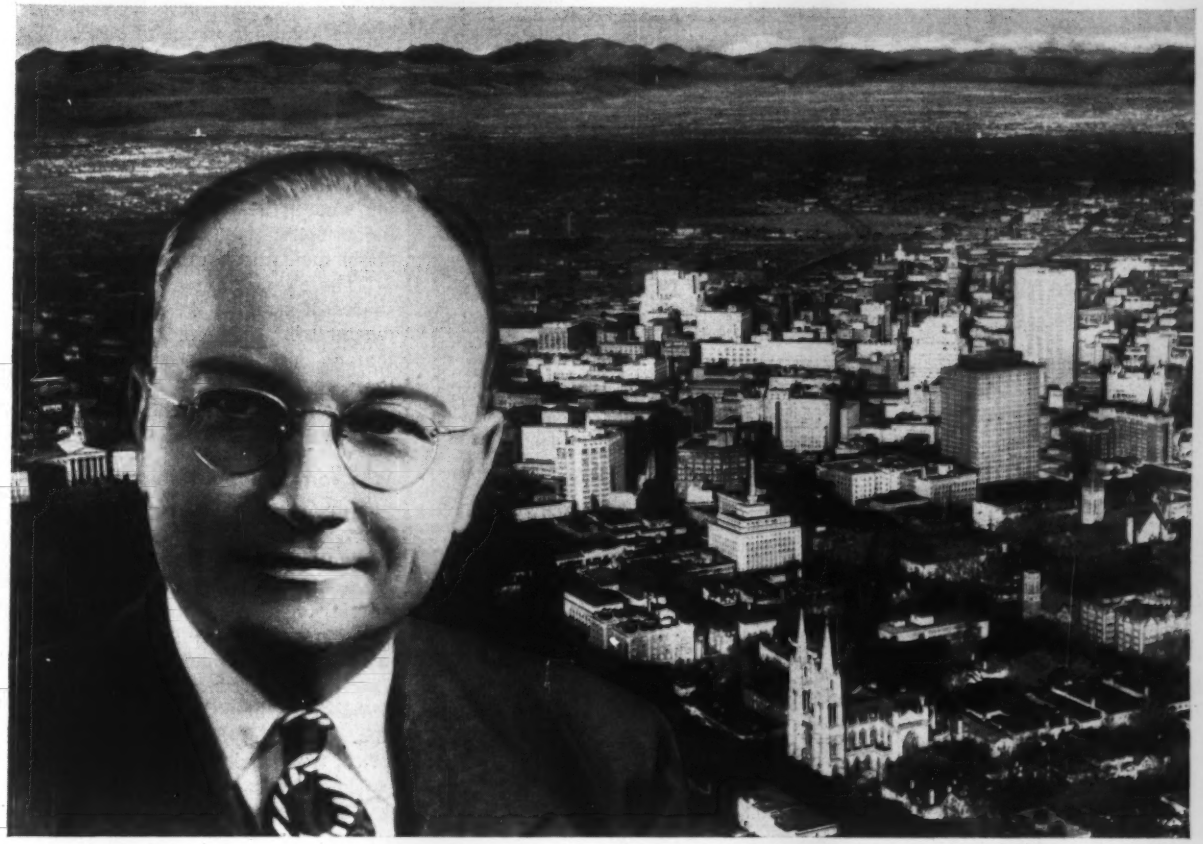
"We are forced to conclude that the signs displayed by numerous employees during working hours were intended to taunt the employer and the supervisors. It was unworthy of wholesome unionism."

Business Unionism: According to classical theory, a union's concern is with wages, hours, and working conditions. But many unions have veered from this concept. The United Hatters, Cap, and Millinery Workers International Union, for example, has spent $6 million in the last three years helping its employers stay in business.

It loaned $1 million to hard-pressed manufacturers. Among other investments, the union spent $435,000 to buy the controlling interest in the Merrimac Hat Corp., Amesbury, Mass.

Another $3.5 million was used to buy a building in New York City to house hat manufacturers and to take a mortgage on another. The union's purpose was to block rent hikes which threatened to force employers to leave the city. Union-sponsored campaigns to encourage women to wear millinery took another $1.5 million.

Short-Term Pacts: You'll be bargaining with your union more often if labor's disenchantment with long-term agreements takes root. Efforts of employers to eliminate automatic raises (cost of living and productivity) during recent negotiations has soured many union officials on signing three- and five-year agreements. Another reason unions are down on long-term contracts is that a five-year accumulation of clauses that need revision is too much to negotiate in one bargaining period.



M. H. Booth, Assistant Traffic Manager, Denver, Colorado

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Mr. Booth and his Industrial Development staff have full information about Airlawn and Sandown sections for you. His group is typical of Rock Island specialized personnel, who, in the past three years, have helped locate over a billion dollars of private industry along Rock Island tracks. He'll welcome your inquiry. Write, wire, or phone—in confidence:

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ers, and the carpenters have a heritage of loyalty to the union movement which makes stock purchase plans too boss-oriented for their tastes.

Not all employers are sold on employee stock ownership. Few managements like to say so publicly—the popularity of stock purchase plans being what it is. But in the privacy of their offices, they are quite articulate about their misgivings.

"There's nothing like a couple of shares of stock in the vault or under the mattress to make a worker think that he can run the company better than any member of management," complains the vice president of a company with an employee stock plan.

Why some companies vote "no"

Such complaints are rare, however. More frequently, the objections include the following:

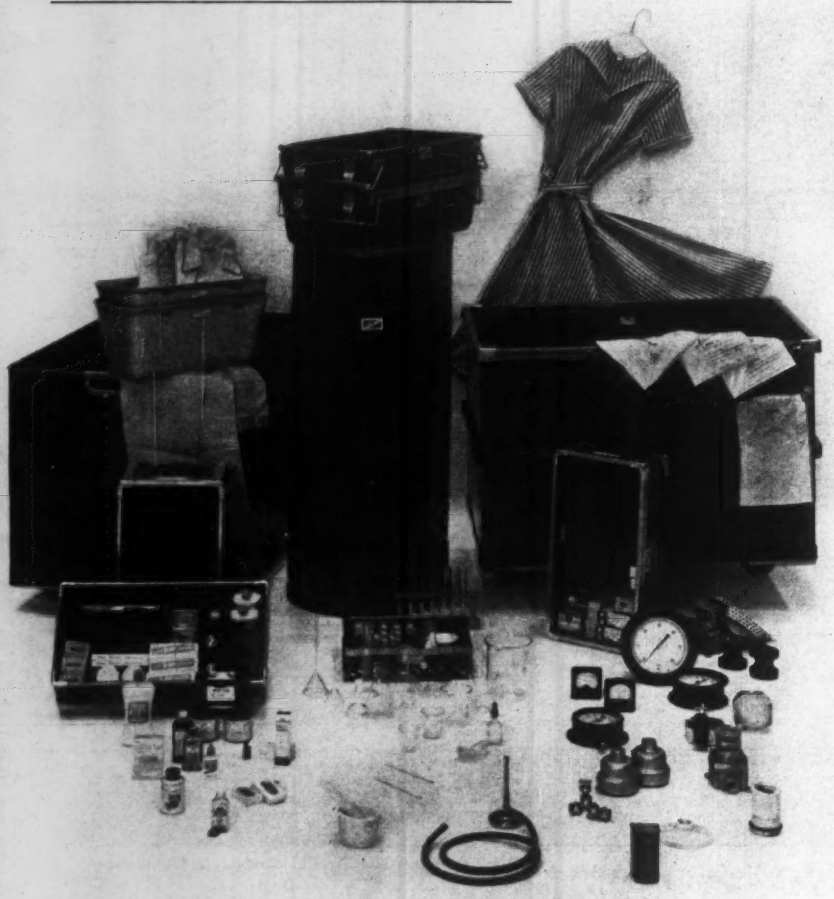
- Stock ownership plans cost more to administer than the dubious improvement in morale justifies.
- If the stock market takes a dive, employees become disenchanted. In 1953–54, when Chas. Pfizer & Co., Inc. stock dipped below the option price, workers left the plan in droves.
- The new capital that can be raised by such devices is too small to compensate for the headaches that result.
- A worker shouldn't put his savings and his job in one basket.
- Other stockholders may object unless given a chance to buy stock at a corresponding discount.
- Stock plans call for elaborate and sometimes costly communications.

Selling the stock is only one phase of an effective program. You must provide the employees with the kind of economic education that helps them to understand what it is all about. This means preparing special brochures and simplified annual reports, training foremen to answer questions, and setting up meetings of all sorts—all on company time. This can add up to a pretty penny.

However, the "yeas" are beginning to outnumber the "nays." The trend is moving closer to the prophesy voiced eight years ago by Mr. Free Enterprise himself, Irving Olds, former chairman of the board of U.S. Steel:

"I believe that all enterprise should belong directly to the people, and I hope that the day will come when every American family will purchase a share of American industry, however small or large that share may be."

END



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EXECUTIVE BOOKSHELF

Brief Reviews of New Business Books

When in Rome

THE EXECUTIVE OVERSEAS: ADMINISTRATIVE ATTITUDES AND RELATIONSHIPS IN A FOREIGN CULTURE *by John Fayerweather. Syracuse University Press, University Station, Box 87, Syracuse 10, N.Y., 195 pages, $4.*

American executives operating abroad, the author says, must be flexible and well-grounded in the traditions of the country if they are to avoid the pitfalls of conflicting cultures and values in dealing with their foreign counterparts. Several case histories illustrate his point.

How to Spot the Expert

PROFESSIONAL PRACTICES IN MANAGEMENT CONSULTING. *Association of Consulting Management Engineers, Inc., 347 Madison Ave., New York 17, 96 pages, $2.75.*

Here are specific practices, attitudes, and principles by which to judge the qualifications of management consultants.

Telling Your Story in Print

EFFECTIVE COMMUNICATION IN COMPANY PUBLICATIONS *by C. J. Dover. The Bureau of National Affairs, Inc., 1231 24th St., N. W., Washington 7, D.C., 367 pages, $14.75.*

Liberally illustrated and well-documented with case histories of tangible results, this fact-packed handbook shows how to put across management's views more effectively and forthrightly in employee publications.

Staying Ahead of the Game

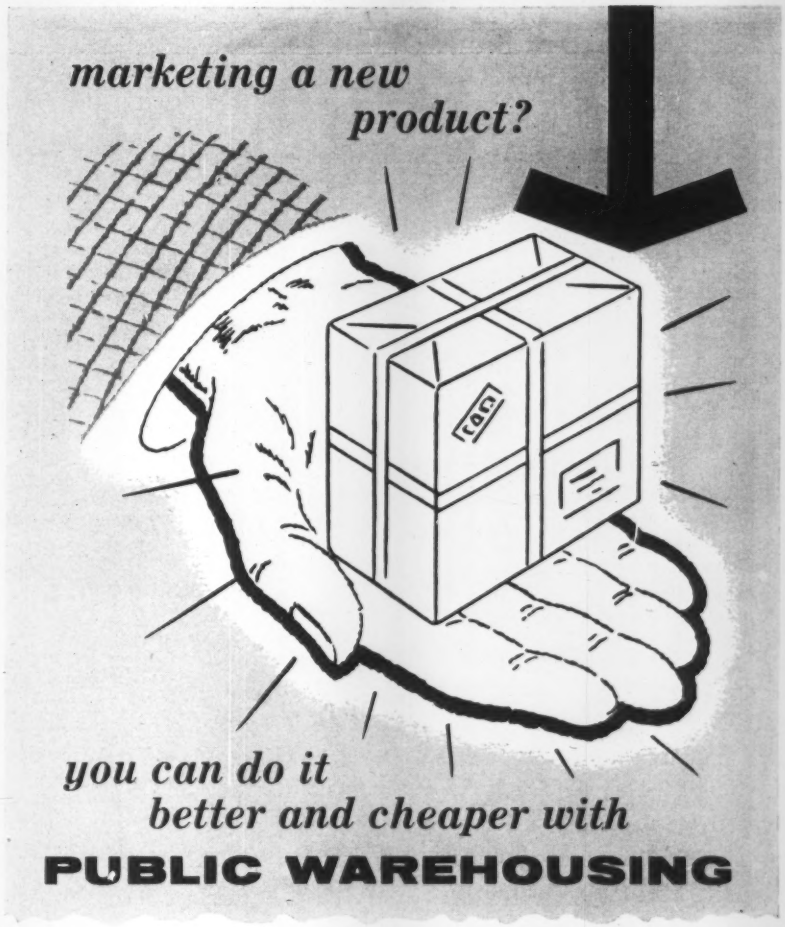
THE MANAGEMENT OF TIME *by James T. McCay. Prentice-Hall, Inc., Englewood Cliffs, N.J., 178 pages, $3.95.*

The author graphically demonstrates how the executive caught in the time squeeze can step up his output by keeping his knowledge and skills up to date and increasing his capacity to get fresh, accurate impressions of what's going on around him.

A Smooth-Running Shop

PRODUCTION CONTROL *by Nyles V. Reinfeld. Prentice-Hall, Inc., Englewood Cliffs, N.J., 339 pages, $8.*

A complete guide to the principles and functions of production control, based on a survey of 500 industrial companies. Contains valuable supplementary material on financial management and paperwork procedures.



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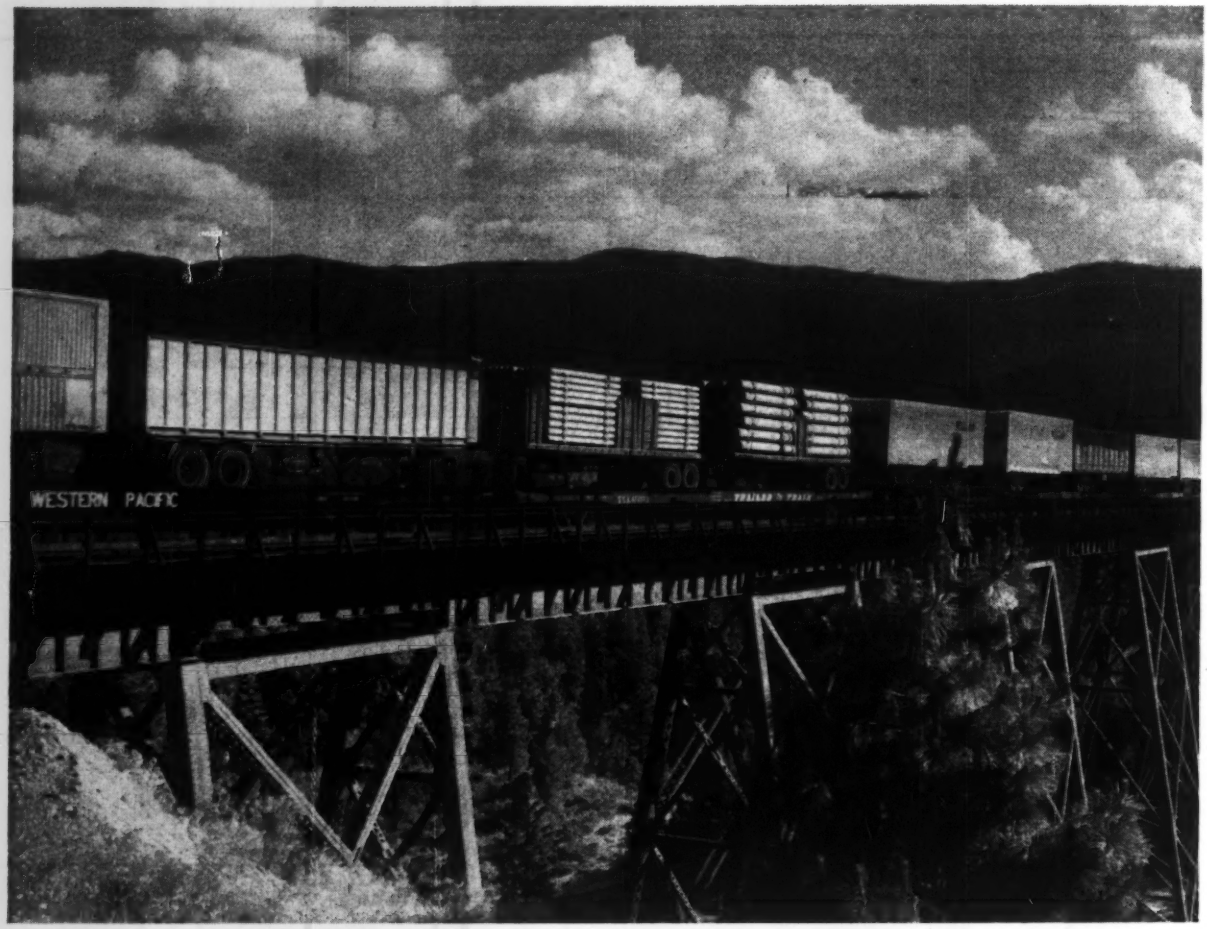

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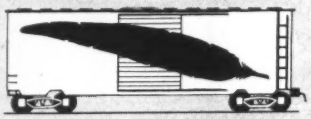

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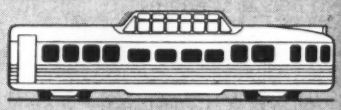

Route of the Vista-Dome
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Capital Views & Previews

A conservative coalition led by Sen. Richard B. Russell, a Democrat, is out to block the "spenders" and halt the growth of big government.

PAUL WOOTEN

A POLITICAL alignment that cuts across party lines is having a marked influence on the legislation coming out of the 86th Congress. The "conservatives" in both parties are banding together in a firm alliance to oppose the programs and policies of an equally determined group of lawmakers who are gathering under the banner of "liberalism."

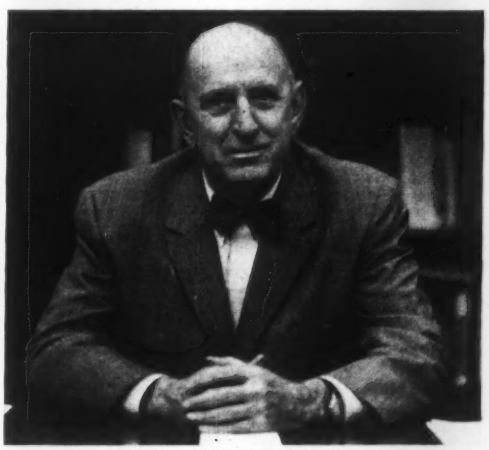
Neither group is formally organized, but each has recognized leaders and each wields great power. Often, individual members of both groups take positions that are diametrically opposed to their party's line.

It can no longer be assumed that all liberals are Democrats, and all conservatives are Republicans. The liberal Sen. Jacob K. Javits of New York and the ultra-conservative Sen. Barry M. Goldwater of Arizona are poles apart on most questions, yet they are both nominally Republicans. And co-existing in the Democratic camp are Sen. Paul H. Douglas of Illinois, an advocate of big Government-supported programs, and Sen. Harry F. Byrd of Virginia, a dedicated foe of rising budgets.

A Democrat champions conservatism

It is not surprising, then, that the recognized leader of the conservative coalition in the Senate is a Democrat, Sen. Richard B. Russell of Georgia. Russell disclaims the title, but he firmly asserts his belief in the conservative philosophy of government.

In the Congress, Senator Russell's conservatism generally is shown in his persistent opposition to the spending programs put forward usually by his own party and his insistence that the nation should live within its income. He is "appalled" by the fact that the national debt has risen since 1930 from $16 billion to nearly $285 billion. This means, he points out, that 10 per cent of Federal revenue must be used to pay interest on the debt. He believes this endangers the stability of the dollar and puts more and more controls in the hands of the "already too powerful Federal Government."



Sen. Richard B. Russell

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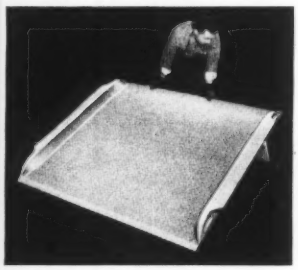

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"There is too much talk in Washington about balancing the budget and reducing the national debt and too little action," the Senator declares. "My own record in opposing nonessential Federal spending and in urging a balanced budget is clear and unequivocal."

Russell notes with satisfaction that the newly-elected liberals on both sides of the Senate aisle are not so far to the left as their pre-election speeches indicated. He points to the fact that, as things have turned out, "spenders" are less numerous among the legislators than they seemed when the session began. He says this change was brought about mainly by the heavy mail Congressmen have been receiving from their constituents in the course of recent weeks demanding a halt to inflation.

"Inflation," the Georgia lawmaker asserts, "is a menace to the solvency and even the security of the nation. The menace goes to the heart of our system of free enterprise. Unless we put our financial house in order—and do so quickly—we may find individual freedom and initiative superseded by a system of state socialism. We already have traveled far down the road to financial irresponsibility."

Budget-cutting takes courage

Russell charges that the "ultra-liberals," as he calls them, are not working for a balanced budget. "Instead," he says, "they are urging all sorts of socialistic and spendthrift social reform schemes. But I am sure the public knows full well that you can't get something for nothing.

"All spending proposals must be measured against the national interest," the Senator declares. "In balancing the budget, the garment must be cut to fit the cloth. The cutting process is painful, but Federal expenditures must be kept within receipts. To do that requires political courage on the part of the executive and legislative branches. Congress must muster the courage to stand up against pressure groups. It will require restraint on the part of all those Congressmen who have pet projects."

He realizes, however, that such a course of action is good in theory but difficult to put in practice. "Everyone is in favor of cutting down the other fellow's program but not his own. Yet, sacrifices must be made if Federal spending is to be reduced to the minimum. Careful examination fre-

quently will reveal that projects can be handled more economically at the local level. Resistance to public projects is usually stronger when the money must be raised in the local community."

Matters of national security and foreign policy must, of course, be dealt with on the national level, and the Senator believes that the Congress should support the President in the exercise of his powers as the voice of the nation in speaking to other nations of the world. Russell himself led the fight in the Congress to authorize the President to use the armed forces of the United States to assist any nation threatened by armed Communist aggression. He has also stood at his desk on the Democratic side of the Senate and declared: "I have confidence in the integrity, patriotism, ability, and dedication of President Dwight D. Eisenhower."

The threat to private enterprise

Nevertheless, Russell's chief concern is that the Federal Government be prevented from assuming more and more of the authority now reserved for the states and private enterprises. He sees a threat to the capitalistic system in much of the legislation proposed by the liberals. He fears that, once the liberals succeed in passing legislation to take over the direction of such local activities as education, they will be encouraged to press for tighter Government controls over business.

"The trend toward concentrating power in the Federal Government ultimately will reduce the states to geographic entities devoid of rights or powers," Senator Russell warns. "Our system of government, which was devised by men of infinite wisdom and prophetic vision and which is one of the miracles of history, will be a thing of the past, as will the way of life under which an individual may advance just as far as his merit, ability, and determination will take him, consistent with the rights of others and the general welfare of the people."

As the spokesman for the conservative forces, Russell has this word of warning for American business: "We must not lose sight of the fact that the states created the Federal Government, reserving to themselves all powers not spelled out in the Constitution. Maintenance of those powers is of primary concern to those engaged in private business." END

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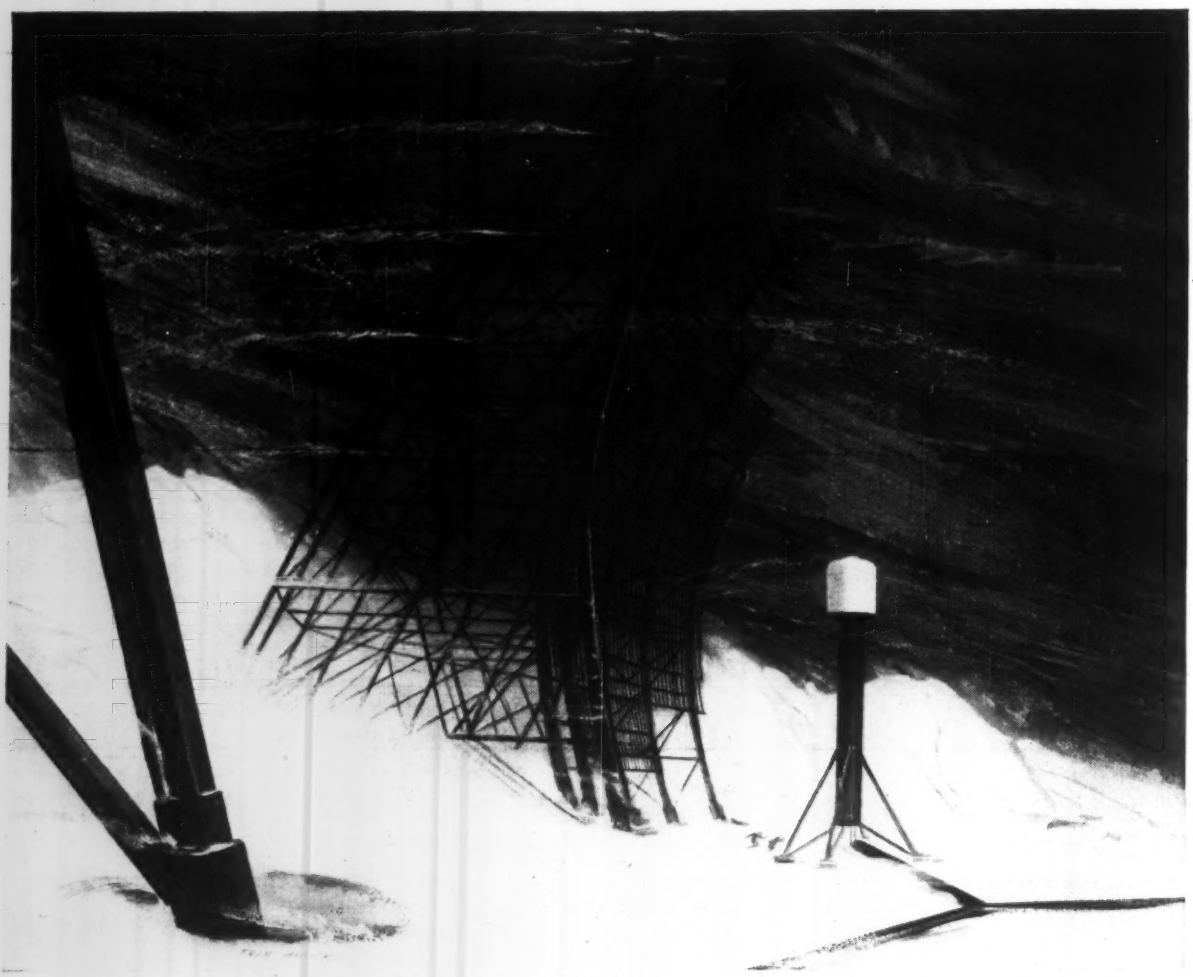

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Yet, the arctic is mild compared to some sub-zero jobs on this earth. It's minus 150°F in oil refining processes. Here a 3½% Nickel steel stays tough and strong.

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*Developed by G. E. and R. C. A.

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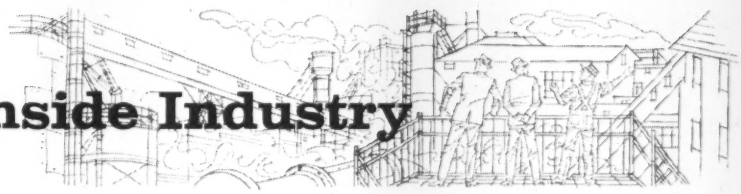

Inside Industry

- *Companies race to market electronic marvel*
- *Quick-change plan for design engineers*
- *Alloy technique offers new uses for lead*
- *New product comes out of product improvement*

Successor to Transistors

"The greatest research project in the semiconductor area of the electronics industry." That's how one authority characterized the current nationwide race to commercialize the "tunnel diode," a brand-new electronic midget with remarkable properties. Most striking of these is its phenomenal "switching" speed, a characteristic that could be utilized to make more compact and less expensive computers.

The tunnel diode, invented only last year by Dr. Leo Esaki of the Sony Corp., Japan, is already the object of intensive efforts at General Electric Company, Radio Corporation of America, Westinghouse Electric Corp., Bell Telephone Laboratories, Hughes Aircraft Company, and other companies with heavy commitments in transistors.

In June, RCA scientists displayed some experimental diodes to Air Force officials. A few weeks ago, GE demonstrated a tiny FM transmitter made with a single tunnel diode (see photo).

Although the tunnel diode is made with the same semiconductor metals used to build transistors and conventional diodes, it has an entirely different principle of operation. Electrons "drift" through transistors, but they

THE VIRTUES OF SIMPLICITY: *The little gadget at the left is a complete high frequency radio transmitter. That's all it takes to work with the "tunnel diode," a remarkable new electronic device of Japanese origin (see story). The diode itself is inside the little can in the right half of the transmitter.*

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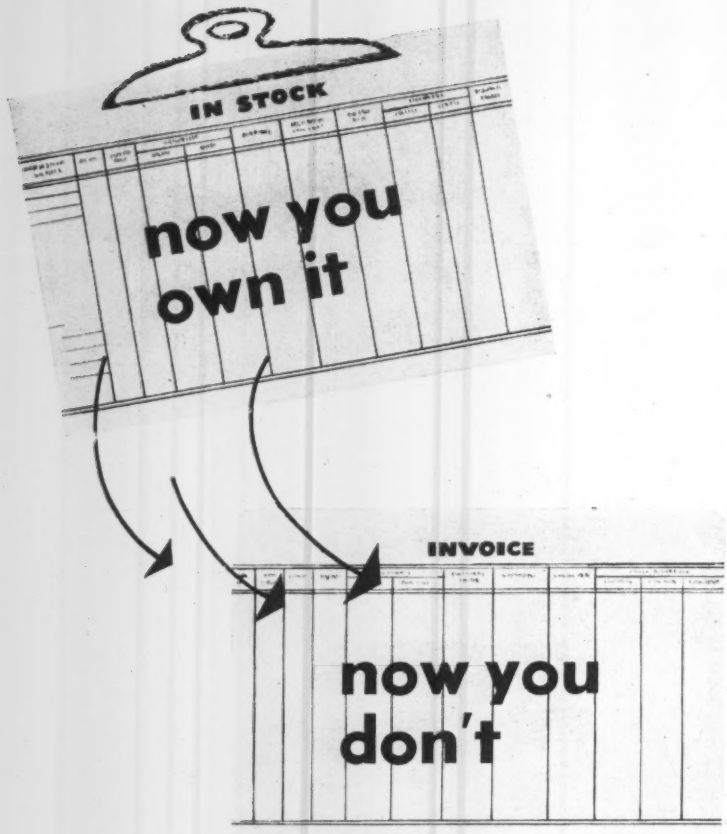

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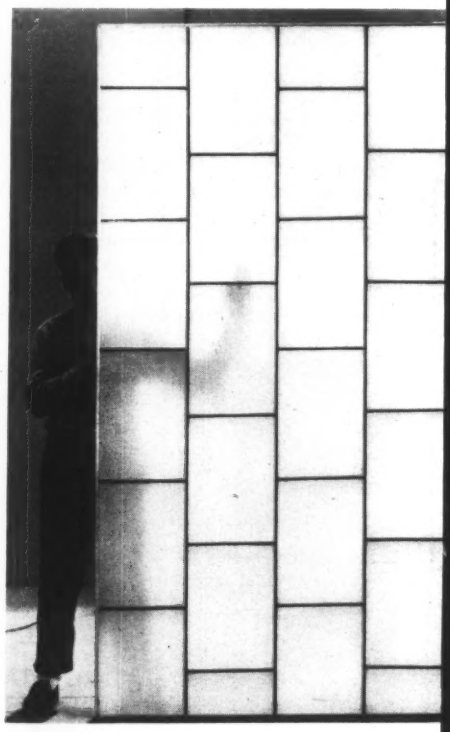
move through tunnel diodes with the speed of light. This accounts for the tunnel diode's much faster speed of operation. According to Westinghouse engineers, faster switching means that a smaller "memory" can handle the same amount of information in a computer.

The tunnel diode has some other advantages over the transistor. It is much less susceptible to temperature changes and can operate in temperatures from absolute zero to 600° F. The best silicon transistors can't take 400° F. The tunnel diode also resists nuclear bombardment, which destroys transistors.

The tunnel diode, however, is not a replacement for the transistor, any more than the transistor is a replacement for the vacuum tube. Since the introduction of the transistor, vacuum tube sales have gone up steadily, although not at the phenomenal pace of transistor sales. Like the transistor, the tunnel diode should expand the horizons of the electronics industry.

Although the computer application



TRANSLUCENT PANELING: *Another proof of the versatility of glass-reinforced plastics (see* DUN'S REVIEW, *February 1959, page 46) is seen in this paneling made of reinforced polyester sheets bonded to aluminum frames. Manufactured by Panel Structures, Inc., East Orange, N.J., they can be used for partitions or skylights.*

appears to be the most obvious use for tunnel diodes, they could do many other jobs in electronic devices.

At the moment, none of the companies experimenting with the tunnel diode has announced specific plans to put them into production. However, the best guess seems to be that when they eventually reach the commercial market, they will be less expensive than comparable transistors.

Dr. Esaki's main interest was in the scientific principles rather than the applications of his discovery. Since he announced the invention of the tunnel diode in scientific journals, the information is now in the public domain and there are no patent restrictions on the device. However, his employer, the Sony Corp., is reported to be close to commercial production of the tunnel diode.

The Die Is Cast!

Forging dies can now be cast to exact dimensions without the usual time-consuming and costly machining. The technique was developed at Armour Research Foundation under an Air Force contract. It makes a whole new group of hard-to-machine alloys eligible to perform as forging dies at operating temperatures up to as high as 1600° F.

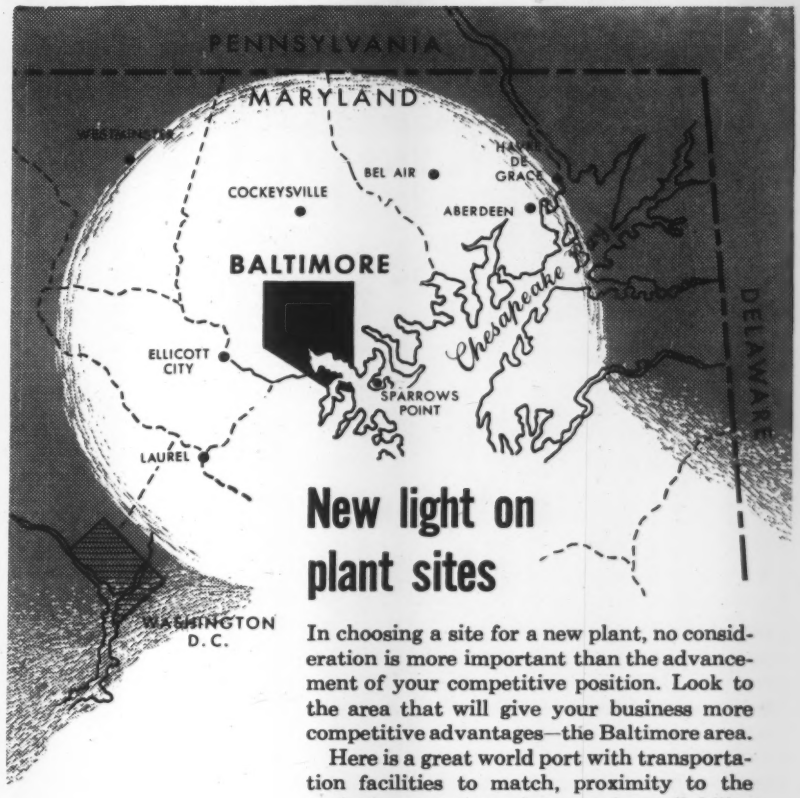
Cutting the Cost of Change

One of the big chores in running a large engineering establishment is keeping up with design improvements. All changes must be approved by supervising engineers and then all blueprints must be pulled out and corrected.

This is a particularly difficult problem in fast-moving industries such as aircraft. So it isn't surprising that a major airframe subcontractor has come up with an efficient system for handling changes. The Aeronca Manufacturing Corp., Middletown, Ohio, claims that its new "Engineering Change System" is saving $52,000 annually.

Formerly, the 12,000 changes made every year had to be reviewed by a board of eight engineers which met three times a week. The cost in time and money of calling these engineers away from their work in four widely scattered plants was excessive.

Under the new system, the review board has only two permanent members and a secretary. The engineers on



New light on plant sites

In choosing a site for a new plant, no consideration is more important than the advancement of your competitive position. Look to the area that will give your business more competitive advantages—the Baltimore area.

Here is a great world port with transportation facilities to match, proximity to the nation's greatest markets, ready availability of raw and semi-finished materials, good labor, good living conditions, ample electric power and natural gas . . . plus special features you will find nowhere else along the Eastern Seaboard.

Let us make an individual Plant Location Study for you . . . in confidence and without obligation. It will show you clearly and concisely the competitive advantages Baltimore offers your particular business. Write, wire or phone our Industrial Development Service, 1106 Lexington Building, Baltimore 3, Md.

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Please have your representative contact me.
Name.....
Title.....
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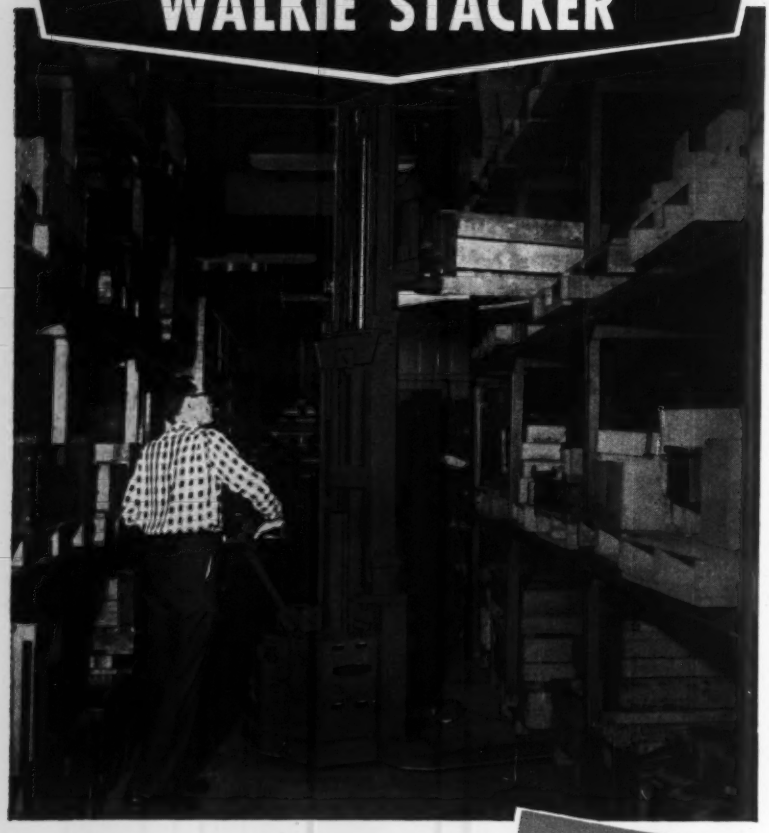
NEW! RAYMOND ELECTRIC
WALKIE STACKER



Cut pallet handling costs down to a profitable size!

OPERATES ON 24 VOLT POWER

RAYMOND's new Walkie Stacker does the same job as a rider type tiering truck . . . yet costs half as much . . . enabling plants and warehouses to enjoy an economical pallet handling operation. Tiers 2,000 lb. pallet loads 10 feet high from narrow 6½ foot aisles. Simple to operate in transporting or stacking . . . exclusive safety feature eliminates need for special driver training. Complete with batteries and charger at one low price. Investigate the cost-saving possibilities of RAYMOND's new Walkie Stacker in your own operation . . . send for FREE bulletin TODAY!

Ask about lease rental and deferred payment plans

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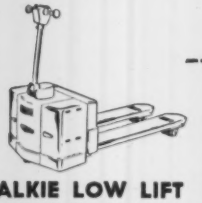

WALKIE LOW LIFT

No other truck like it for lateral movement. Pallet and Skid models have twice the power of ordinary walkies. Three speeds, forward and reverse. Exclusive safety control to prevent "pinning" operator. Send for FREE bulletin.

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NAME TITLE
COMPANY
STREET
CITY STATE

the board have no other responsibilities except to see that the changes they approve are implemented.

In addition to saving manhours equivalent to six full-time employees, the company has also eliminated 27 paper operations, 40 filing cabinets, and five forms. A half-million sheets of paper are saved every year.

New Alloying Method

Lead—currently a drug on the market—may be on the threshold of a new career as the key element in a new "lead-cementing" alloy technique. The experimental alloys are made by mixing molten lead with finely ground particles of other metals or materials. The combined properties of the mixture may have many applications in the atomic, chemical, and metalworking industries.

For example, by adding neutron-stopping boron to gamma ray-resistant lead, an effective shielding material should result.

Investigators at Battelle Memorial Institute, where the new technique was developed under the sponsorship of the Lead Industries Association, found that six metals combine well with lead. They are cobalt, copper, iron, molybdenum, nickel, and tungsten. The combinations could be very effective as high-temperature seals.

Exchange for Idle Patents

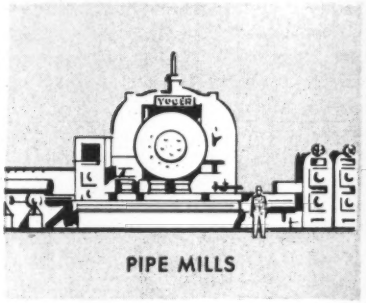
As reported in the December 1958 issue of DUN'S REVIEW, many large corporations own unused patents that they are quite willing to license gratis or at low rates ("Profiting from Other People's Research," page 40). Unfortunately, it has never been easy to find out about such potentially profitable patents.

Now an organization has been set up specifically to act as an exchange for pigeonholed patents. Known as the National Patent Development Corp., it will have offices in Washington and New York.

Accidental Diversification

Some of the most significant technical innovations have been by-products of investigations with an entirely different objective. A good example is the new technique discovered by a glass company for making porous nickel parts to close tolerances.

Engineers at Corning Glass Works



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YODER PIPE AND TUBE MILLS

Today's expanding markets and tightening economy demand closer production cost control. YODER'S complete line of ferrous or non-ferrous Pipe and Tube mills can help you meet production schedules economically... help you realize significant savings in the manufacture of tube and pipe.

YODER Pipe and Tube mills offer flexible production to meet fluctuating demand. They adapt easily to the most rigorous schedules. Everyday manufacture of constant high quality pipe and tube in diameter of 5/16" to 24". Speeds up to 350 fpm plus can be obtained with YODER mills.

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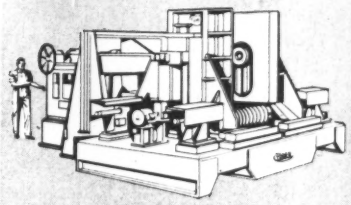
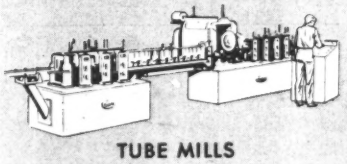
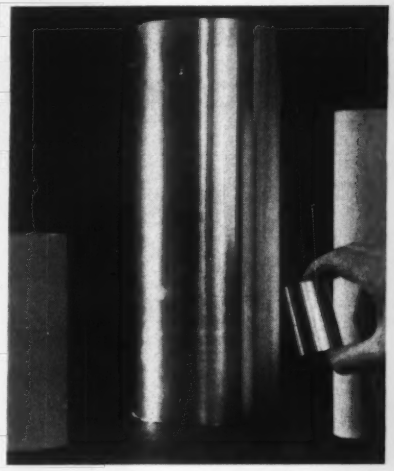


HEAVY DUTY UNCOILERS



TUBE MILLS

ENGINEERING YODER MANUFACTURING
PIPE AND TUBE MILLS
(ferrous or non-ferrous)



BIGGEST YET: *These cylinders of porous nickel, largest ever made, may have varied uses in industry. Corning Glass figured out a new way of making accurately sized porous nickel parts while solving a glass production problem (see story).*

were seeking a way of pouring molten glass directly from the furnace to the mold. Pouring over a metal chute produced undesirable wrinkles in the finished glass. After many experiments, they worked out a method for making large, strong, porous nickel chutes. In operation, compressed air blown through the pores "floats" the molten glass down the chute without its ever touching metal.

The chutes are so successful Corning has gone into the business of fabricating porous nickel parts larger than anyone has ever made before (see photo). Among the suggested applications are use as non-contacting rollers for sensitive photo film or as orifice burners. There may be other applications in industry.

What's in a Name?

Among the many changes induced by the Space Age is a new trend in naming companies. Getting away from the now old-fashioned "-dynamic," "-electro" and "-nutronic" of the slowpoke supersonic era, newly founded companies are taking on titles with an "other-worldly" sound. Recent examples are: Fifth Dimension, Inc.; Quantum, Inc.; The Mitre Corp.; and Genesys, Inc.

For aspiring industrialists with their eyes on the stars, DUN'S REVIEW suggests some likely names: Galaxy Associates; Apogee, Inc.; Pegasus Corp.; Spectrum, Ltd.; or Relativity, Inc.

—M.M.

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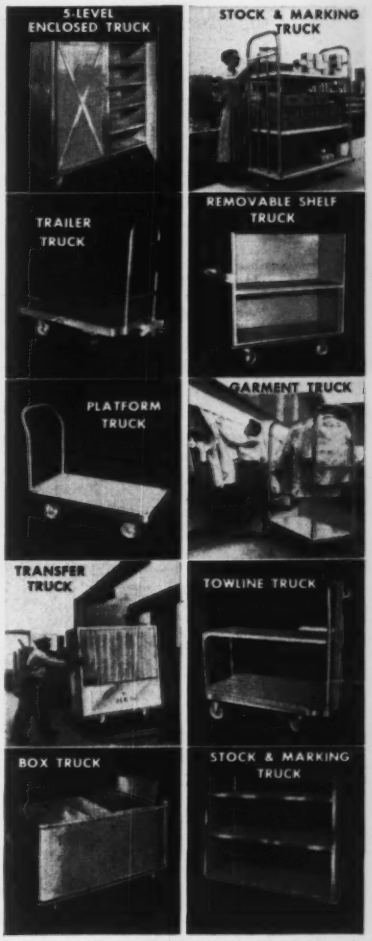

WHICH OF THESE MAGLINER TRUCKS WILL SAVE YOU MONEY? *Lightweight Magliners for heavyweight jobs—that's the trend!* Plants . . . warehouses . . . stores . . . delivery work—whatever the application . . . costs go down with Magliners on the job! Check into the money-saving advantages of Magliner 4-Wheel Trucks for your operation . . . get a Magline quotation before you buy.

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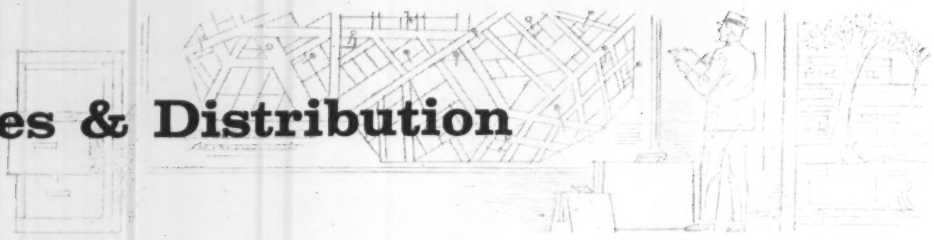


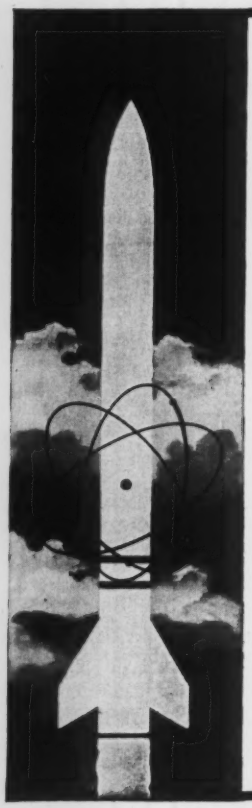
- *Downturns mean upturns in luxury goods sales*
- *New job-hunting season for salesmen: summer*
- *Who uses market research and how*
- *Closed-circuit TV spots laggard salesmen*

Recession-Proof Products

Every marketing chief yearns for a product that is as recession-proof as aspirin. Most products swing with the business cycle and create immense problems for management in controlling inventories, planning production, budgeting expenditures, and allocating sales effort. If a company could predetermine, even roughly, the approximate path of its products during downturns in general business, it would be in a much stronger position in the marketplace.

A new study by the National Industrial Conference Board reveals that a surprising number of products have fairly consistent behavior during recession periods. After examining in detail the department store sales of scores of products, the Conference Board found that in all three postwar recessions—1948–49, 1953–54, and 1957–58—sales of certain items were consistently good.

Surprisingly, those products that



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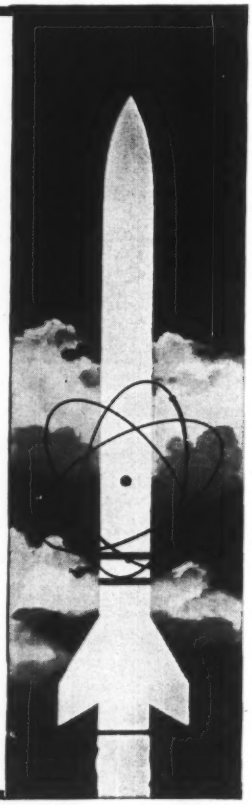


are generally considered purchases that can be easily postponed—cameras, sporting goods, silverware, jewelry, books, games—were among the items in strongest demand during the three recessions.

The items that performed best during times of economic downturn appeared to be those favored by the upper-income groups not adversely affected by recessions.

But also recession-resistant were women's blouses, skirts, sportswear, and underclothing; women's and children's shoes; and handbags. The biggest sellers during the recessions, according to total store sales, were housewares (including small appliances) and men's and boys' shoes.

Among the items that weakened the most during the recessions were floor coverings, luggage, major appliances, and furniture. Home furnishings were decidedly poor performers, and this was true of both large and small items.

The products that withstood the recessions best also scored the most impressive gains when the upturns came. The items that weakened most during the downturns recovered only moderately as the recessions faded.

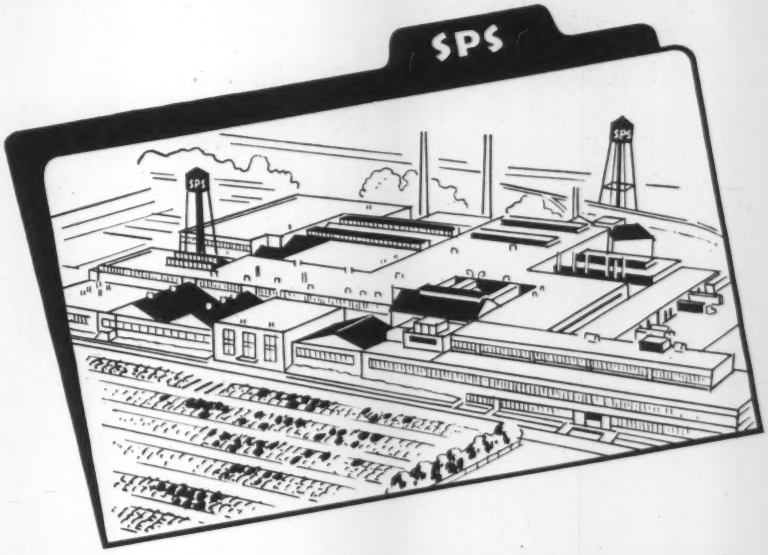
This is pointed up by the Conference Board's analysis of long-term growth changes in the sales of many department store products. Generally, those that scored the most impressive gains during the last decade had the best sales records both during periods of recession and recovery.

Job-Hopping in July

Traditionally, the time for salesmen to move on to greener pastures has been as the leaves begin to fall. But although most sales managers and salesmen still change jobs either in the fall or spring, a surprisingly large number made their moves this past summer, according to a survey of 186 manufacturers by Tom McCall & Associates, a Chicago placement service. Among the reasons given for the marked increase in job changing among sales and marketing men in the five-figure bracket were:

- Greater activity in almost every type of manufacturing encouraged companies to build up their sales forces with men who would be well broken in by fall.
- As the result of diversification, seasonal peaks and valleys are not so pronounced in many industries as they were several years ago.

ANOTHER CASE FROM PINKERTON'S FILES



COMPANY IN METALWORKING FIELD RELOCATES ITS OWN PLANT GUARDS, SWITCHES TO PINKERTON GUARD FORCE, SAVES $25,000 A YEAR

Standard Pressed Steel Co. made the successful move and achieved what it wanted—a better supervised, tighter and more economical security operation. In the process, the company managed to relocate its own 16-man guard force without internal strife and to the eventual advantage of the men involved.

The SPS headquarters plant, in Jenkintown, Pa., is a sprawling, modern metalworking operation producing precision fasteners and related structural components for aircraft, missiles, nuclear and general industrial applications. There are outlying buildings, including a warehouse 8 miles away and a manufacturing subsidiary 5 miles. All these had to be integrated into the security system, operating around the clock, including Saturdays, Sundays and holidays.

When Pinkerton's took over, these major savings resulted:

- Training and supervision by professionals instead of busy plant personnel.
- Better enforcement of good security conditions.
- Immediate replacements, if necessary, in guard personnel. For the inevitable "clinker," there's instant remedy—Pinkerton's replaces the man.
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If you are considering tightening up your security system and at the same time cutting down on costs, we will be glad to provide a more complete description of our service. Send for the Pinkerton brochure on Security—or request information about a security engineering survey of your needs. Fill in the coupon today.

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BANK

• Salesmen are realizing that they face less competition for attractive jobs during the hot months and are moving to take advantage of this situation.

State of Market Research

Money makes money, and research breeds further research. In recent months, two major research efforts have explored the development and present state of marketing research in industry. The American Management Association concluded from a study of 239 companies (see DUN'S REVIEW, April 1959, page 77) that marketing research has grown rapidly in recent years. A new study of 1,359 companies made by the American Marketing Association corroborates this and adds these findings:

• All the surveyed consumer goods manufacturers with sales of more than $500 million have marketing research departments, as compared with only 43 per cent of those whose sales range from $5 million to $25 million. The larger group has an average of 11.3 people in their marketing research departments, and the smaller manufacturers have average staffs of 3.6.

• Manufacturers of consumer goods —regardless of size—spend from 40 to 50 per cent of their marketing research budgets on outside services—that is, research provided by advertising agencies, market research companies, and consultants. In contrast, manufacturers of industrial products spend only from 11 to 15 per cent of their funds for outside services.

The most commonly purchased outside services are stores audits, consumer panels, audience ratings, and preference surveys. Consumer goods manufacturers also outspend makers of industrial goods in every size group for the total market research budget.

As to compensation paid to direc-

"I quit. I can't stand the sight of sap."

tors of marketing research, there is relatively little difference between consumer and industrial goods producers. But there is a marked relationship between the size of a company and the compensation. Nearly one-fourth of the companies with sales of more than $500 million paid their directors of marketing research $30,000 a year or more.

New Uses for TV

Long at work in industrial applications, closed-circuit television (see DUN'S REVIEW, July 1956, page 47) is now moving into marketing. Television has been used for a number of years to spot shoplifters in supermarkets and department stores. But soon supermarket shoppers will be able to use TV to spot the products they want.

Grand Union supermarket chain soon will begin a test operation of closed-circuit television in a Bronx, N.Y., supermarket. TV sets located throughout the store will show straight commercials in color for products on the shelves. The hope is that the TV set-up will help fill the need companies selling through supermarkets have for better point-of-purchase material and more shelf space.

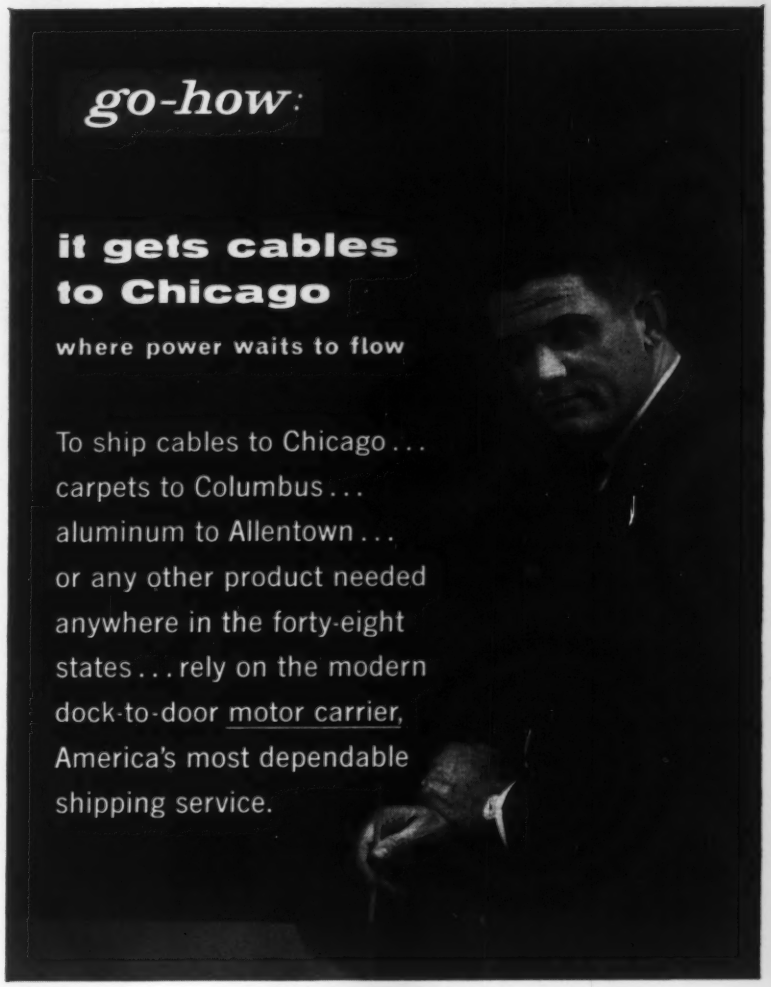
Closed-circuit television is also being used by a Texaco service station dealer in Dallas to keep an eye on his attendants. From his nearby apartment, the dealer can oversee the activity at his station by glancing at the TV screen. On one occasion, he saw enough to cause him to replace two inefficient attendants.

When a car pulls into the station unnoticed, the dealer telephones to the attendant that a sale is waiting to be made. Although the system cost $1,500, it eliminates one employee and boosts sales.

Selling by Comparison

As competition gets keener, companies increasingly are resorting to comparison selling. Makers of industrial products are sending out mobile units to demonstrate their products against those of the competition. More and more salesmen are being armed with hard-selling information that compares the competitors' products point by point.

In one of the most unusual moves in the product-vs.-product contest, one company is demonstrating its faith in the superiority of its own product by giving away a competing


go-how:
it gets cables to Chicago
where power waits to flow
To ship cables to Chicago . . .
carpets to Columbus . . .
aluminum to Allentown . . .
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anywhere in the forty-eight
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1 **Staple special cartons** and corrugated fillers far faster with powerful DUO-FAST Air Pliers. Portable. You save time by taking tool to the work, instead of moving work to a big stationary stitcher!

2 **Attach tags, labels, freight bills** with DUO-FAST "Outward-Clinch" Stapler. Staple-legs drive in, then out to guard carton contents from damage. Holds better than tape at 1/10th the cost!

Which of these 3 stapling ideas can save most in your packaging?

Shown here are 3 of the ways DUO-FAST automatic stapling can reduce costs for you. There are many more.

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Ask your DUO-FAST man. With over 150 staple-tacking models to draw on, he'll show you the safe, accurate, *automatic* way to streamline your fastening methods.

Free maintenance service. And remember: every DUO-FAST Stapler carries a money-saving Free Service Guarantee! Send coupon below for free "Timesavers" Bulletin FT-50.

3 **Make up cartons** for a fraction the cost of tape with a DUO-FAST Footpower Stapler. Leaves both hands free for neater, faster work. Easily portable—weighs just 38 lbs.

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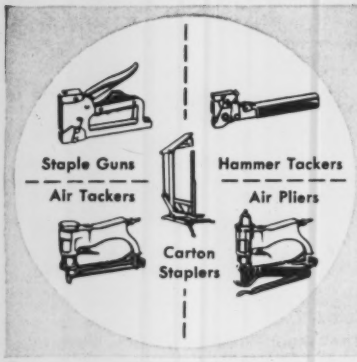

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brand so that shoppers may test and compare. Chun King Enterprises, Duluth food manufacturer, will announce later this month that if a consumer buys one of the company's frozen Chinese dinners and the frozen dinner of a competitor, Chun King will refund the price of the competing product.

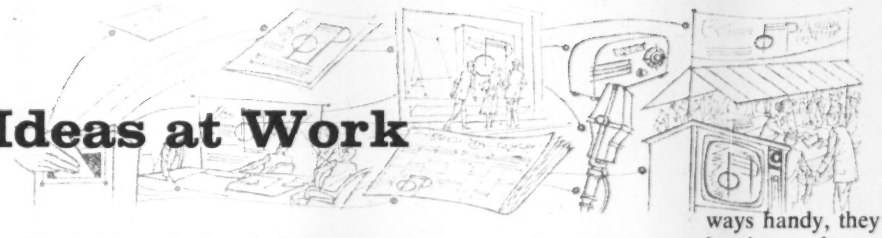
Poi in the Sky

The new state of Hawaii is inspiring new marketing ideas. One food company is readying a line of frozen Polynesian foods. A manufacturer of photocopy, offset, and microfilm equipment, the Photostat Corp., Rochester, N.Y., is using a novel means of sounding out the market in the fiftieth state. Instead of sending a member of top management to look over the possibilities for setting up a branch office or a dealership or both, the company hit on the idea of a trip-to-Hawaii sales contest for its 21 branch managers.

The contest winner and his wife will stay at a Honolulu hotel for a week next month, but the winner must use the time to study the market for the company's products while he is there. The company is proceeding on the premise that the branch manager who comes up with the best sales performance is best qualified to judge the sales potential of the new market in the islands. If, as a result of his report, the company decides to set up a branch office there, the winner will probably be named as the new Hawaiian manager.

Free-Spending Westerners

Not only are industrial markets shifting to the West and Southwest but the richer consumer markets are also on the move westward. A new study of per capita retail sales by the U.S. Bureau of the Census shows that purse-strings are loosest in the West. The latest data show that shoppers spend about 15 per cent more than the national average in the Western states of Washington, Oregon, California, Montana, Idaho, New Mexico, Wyoming, Colorado, Arizona, Utah, and Nevada. Per capita spending there is the highest in the nation. The per capita retail spending in the West came to $1,347, compared with $1,194 in the North Central states, $1,242 in the Northeast, and $1,101 in the South. —T.K.



Ideas at Work

- *Safety contest prize: choice parking spot*
- *Employee thespians entertain at sales conventions*
- *Company puts men on bikes to cut walking mileage*
- *Local talent display draws customers, builds good will*

For Safety's Sake

Safety talk seems to fall on deaf ears unless new and unusual ways are found to stir worker interest and drive the message home. Here are three novel ideas companies are trying:

Winners in accident prevention slogan contest rate a reserved parking spot in a choice location at Lederle Laboratories. The top prize winner is awarded the use of the spot for one month.

The Switch Gear Division of General Electric Company in Philadelphia gets an assist from a candy vending machine company in putting over its safety campaign. Each time a candy bar drops out of the machine, it is accompanied by half a limerick on some phase of industrial safety. The object is to match halves with another worker, and prizes are awarded to employees who complete the limerick. Meantime, safety talk is generated during the swapping.

The Atlas Powder Company, Wilmington, Del., has issued to all its key plant personnel an emergency procedure checklist and a list of telephone numbers of persons to be called in case of a plant accident or other emergency.

To make sure the checklists are always handy, they are printed on wallet-size cards.

Everybody Gets into the Act

Companies are trying a variety of schemes to instill in all their employees—not just salesmen—enthusiastic pride in the products they make. One of the most effective of these programs is carried on at the Armstrong Cork Company, Lancaster, Pa.

At all Armstrong sales meetings and conventions, the actors and singers who take part in the skits and sing the praises of Armstrong products are volunteer performers—employees recruited from all departments of the company.

About 100 employees participate in the annual sales program. They rehearse on their own time for weeks in advance and perform all the backstage jobs as well. The Armstrong Chorus, composed entirely of employees, sings songs especially written to tell the company's sales story. Dress

A Pair of Step-Savers

WELCOME WAGON: *Customers tour the vast Cleveland Mill of Chase Brass & Copper Company in comfort riding in this electric-powered personnel carrier. These travelling companions are, left to right, Paul Brissette, purchasing manager, Burndy Corp.; C. L. Moseley, a Chase district manager; Syd Wolberg, vice president, Burndy; and D. S. Stauffer, Chase sales coordinator.*

BEATS WALKING: *Maintenance men and operators use a fleet of 30 bicycles to pedal from job to job at the sprawling Detroit Edison Company power plant at St. Clair, Mich. An enterprising foreman, who brought his own bike from home to try out, is credited with the idea, which saves time and shoe leather. Carts attached to the bikes may soon be used to haul heavy tools.*

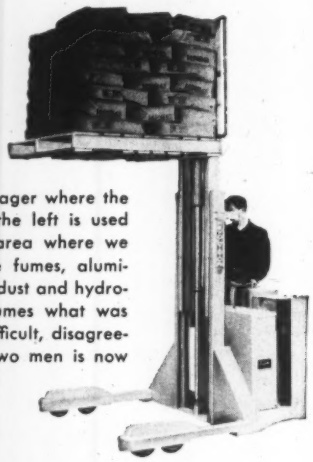
EXPLOSION PROOF
CLASS I GROUP D
POWERED LIFT TRUCKS

Underwriters' Laboratories, Inc.
INSPECTED
TYPE EX
REVOLVATOR COMPANY

APPROVED and PROVEN

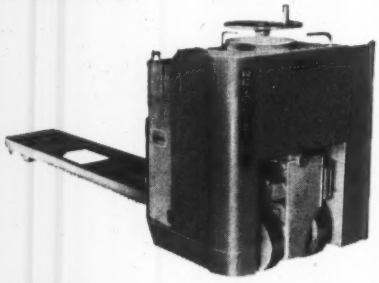
8 YEARS ON THE JOB

Since 1951 Revolvator Go-Getters, designed for this service, have been specifically approved by leading industrial insurance companies for use in Class I Group D explosion hazardous areas in major plants from coast to coast. User comments like those below show that the Go-Getter has been more than approved by safety authorities . . . it has been proven in use for eight years.



The Plant Manager where the Go-Getter at the left is used says, "In an area where we have explosive fumes, aluminum choloride dust and hydrochloric acid fumes what was previously a difficult, disagreeable job for two men is now easy for one."

Air in the color mixing room of the finishing plant where the Go-Getter above is used carries organic dusts as well as explosive fumes. The foreman says, "The men like the Go-Getter and use it steadily."



Executives in the chemical plant where the model to the right is used say, "We use the Go-Getter in our area which has the most severe hazard." Another plant where quantities of explosive solvents are used for "wash down" reports of a similar model, "We are well pleased and we are ordering another Go-Getter."

A major insurance association writes, "We are quite willing to accept the unit (Go-Getter) as it is designed with explosion proof housings for the motors and controls as usually specified for electrical equipment that can be safely used in explosion hazardous areas."

A nationally known safety engineer writes, " . . . calling the existence of this line of trucks to the attention of the industry as we believe many would want to know about this equipment."

The Go-Getter is the latest addition to a complete line of materials handling equipment for use in explosion hazardous areas that Revolvator has been building for over a quarter of a century.

REVOLVATOR CO.
8702 TONNELE AVENUE, NORTH BERGEN, N. J.
SINCE 1904

rehearsals are open to all the workers.

Management thinks the part-time thespians inject enough entertainment into the conventions to sustain the salesmen's interest, and at the same time, the plant employees are given a personal part in the company sales effort.

Author! Author!

To encourage employees to write magazine articles on the company and its products, the Brown & Sharpe Manufacturing Company, Providence, R.I., has formed an Authors' Club.

Publication of one article is a requisite for joining. New members get a membership card and are guaranteed payment for the article at $25 a page. If the publisher himself does not meet this rate, Brown & Sharpe makes up the difference.

The authors meet periodically at luncheons attended by top company officials.

In the first nine months since the club was organized, feature articles by employees have appeared in eight leading business magazines.

Talent Showcase

Honoring "local talent" has paid big customer and community relations dividends for the Tappan Zee National Bank of Nyack, N.Y. Although, admittedly, the bank has superior talent to work with, the idea could be modified and adapted by businesses in other, less favored communities.

The bank is located in suburban Rockland County just outside New York City, where a great number of nationally famous writers and artists live and work. Since the bank opened four years ago, it has staged regular exhibits of the works of its talented neighbors in the lobby of its modern glass building.

The latest was a display of 500 books written by Rockland County residents like David Loth, Edgar Snow, Carson McCullers, Ben Hecht, and John Masters. In other years, the works of the county's leading painters, cartoonists, and illustrators were showcased. The public is invited to meet the authors and artists at Sunday afternoon receptions. During the week, the exhibits attract still more visitors to the bank.

The bank's executive vice president, Frederick Palmer, says many of the people whose works have been shown

have stayed on to become good customers, and the program generally has been a great help to the bank in establishing itself as an important part of the community.

In the photo below, George M. Schofield, chairman of the board of the bank, is shown talking with novelist John Masters.

Loans to Future Typists

A good way to help insure a future supply of typist and secretarial candidates is to lend typewriters to employees' children, a Troy, N.Y., manufacturer believes.

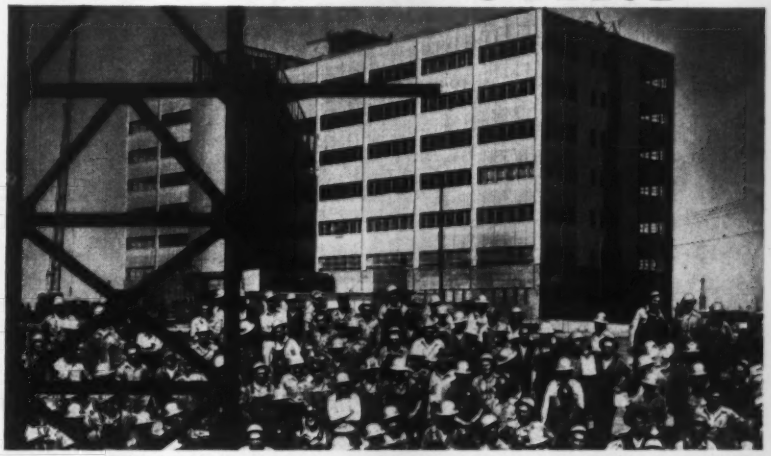
Behr-Manning Co., a division of Norton Company, postpones the trade-in date for its office typewriters for two or three years and makes the machines available without charge to employees' children who are taking typing courses in high school.

An employee who wants to borrow a typewriter for his child applies to the company's office services department. The child's teacher is asked to sign a statement that the loan would assist the pupil's progress. In this way, the company is assured that the child is actually studying typing.

Typewriters are loaned for one semester only. Then the machine is returned to the company, cleaned, and checked for any needed repairs. If the student wants it for another semester, he makes a new application. Unless the machine needs costly repairs, it goes back into the loan pool until the two-year postponement of trade-in has elapsed.

The company estimates the loss in trade-in value amounts to only about $7 a year on each machine. Results have been consistently good, and the biggest benefit has been the good will that has developed between the company and the schools which will be turning out future clerical workers for the company. —C.K.

LONG BEACH, CALIFORNIA
OFFERS INDUSTRY



EXPANDING MARKETS
IN THE NATION'S FASTEST GROWING AREA

Every month, on the average, 15,000 newcomers move into Long Beach City and surrounding Los Angeles County, already the second most populous in America. In the next 12 years, this County is destined to become first in the U. S. in retail sales and purchasing power, which are today $9 billion and $12½ billion respectively. If you manufacture consumer goods, meet competition by locating in Long Beach. If you fabricate industrial components, our growing industry sustains a continuing demand for your kind of products and services. Locate your plant in Long Beach . . . the heart of this fabulous land of growth!

PORT OF LONG BEACH
BRINGS IN VAST NEW WEALTH

A total of 1,558 ships called at the Port last fiscal year. Each ship spent about $30,000 for fuel, food, hardware, other supplies. Sixty-five thousand seamen each spent locally an average of $82 per call. This represents a total *bonanza* in cash money of $52,070,000 for the economy of Long Beach . . . through Port payrolls, retail sales and in other ways. Debt-free Long Beach Harbor, a model port, man-made to suit the shipper, builds purchasing power as it serves the shipping needs of industry in this area.

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LONG BEACH, CALIFORNIA

☐ Please send color brochure on Industrial Long Beach, and newspaper "The Plant Locater"

☐ Send your quarterly Port news magazine, "Harbor Highlights"

Name: _____
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Firm: _____
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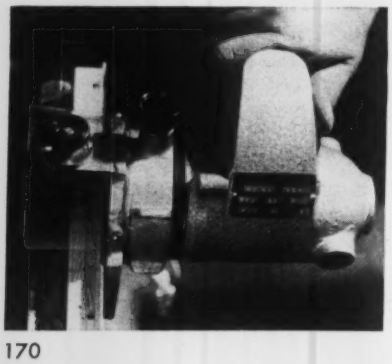
Where climate turns the wheels of industry for greater profits

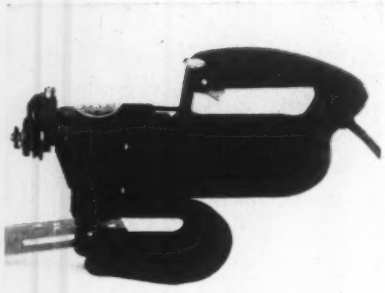
LONG BEACH, CALIFORNIA

New Product Parade

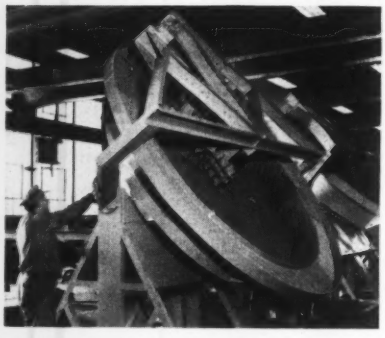
COOL-HEADED: The man below hasn't stolen his child's space helmet. He's just wearing a personal air-conditioning unit designed for truck and tractor drivers. The gadget behind him is a refrigeration unit connected to the helmet by a 6-foot vinyl hose. The ⅛-hp motor can be wired into any 12-volt ignition circuit. The device filters as well as cools air. *"Whitecap," Jamieson Laboratories, 2200 Colorado Ave., Santa Monica, Calif.*

PLASTICS ROUTER: The portable tool below offers one-handed operation for routing laminated plastics. Imported from West Germany, the machine has a plastic shield which deflects chips downward. Unit can be adjusted, even while operating, to both square-edge milling and simultaneous bevel or contour milling of same edge. *"Haffner Router," Import Tool Company, 9520 Garfield Blvd., Cleveland 25.*



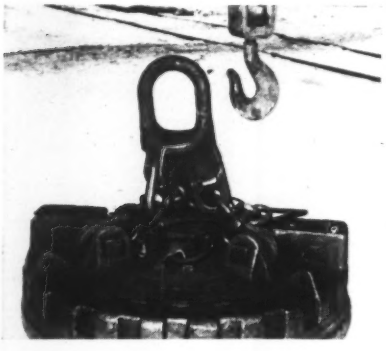


HOLE PUNCHER: Another portable tool, shown above, can be carried around the assembly line to punch out holes of any size or shape wherever needed. Weighing just fifteen pounds, the press can be used on any material up to ⅛-inch thick. The punch and die can be changed in a few minutes. *"Porta-Press," Modern Manufacturing Company, 680 Davisville Road, Willow Grove, Pa.*



MIXING DISCS: Developed in West Germany, the rolling disc above will pelletize or mix a wide variety of fine materials. Most fine granular solids can be pelletized to any size from 1/16 inch to 1.5 inches. Dust, sludges, and other fine materials can be reclaimed. The discs are available in diameters of 3.25, 8.5, 12, and 16.5 feet. The smallest size is available on lease for pilot-plant studies. *Dravo Corp., Neville Island, Pittsburgh 25.*

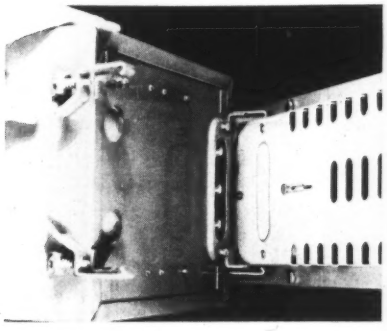
CRANE CHAIN: The hook below is about to pick up a large magnet with a new chain assembly made of tough alloy steel. The rigid master link at the top is said to prevent pinched fingers and allow the crane operator to pick up and deposit the magnet without a helper. Tripod construction prevents chain damage due to twisting. *"Steady-Lift," American Chain & Cable Company, Inc., 929 Connecticut Ave., Bridgeport 2, Conn.*



STACKER: The straddle carrier shown below has been designed to speed handling of containerized shipments. Containers 8 feet high and wide and 24 feet long can be tiered two high. Maximum capacity of the truck is 50,000 pounds. The carrier will straddle a string of railroad flatcars to load or unload anywhere. *"Van Carrier," Clark Equipment Company, Battle Creek, Mich.*

»This month: air-conditioned helmets, chain assemblies, portable hole puncher, agglomeration discs, container carrier, electrical distribution system, copying machines and equipment, and a host of other new product ideas.

LOW PRICE: Smaller offices can now take advantage of electric typewriters with this medium-size, inexpensive model. Weighing about nineteen pounds, the machine is easily portable and requires less desk space. The roll will accept any paper up to 12⅛ inches wide. The price runs slightly less than half that of de luxe electric models. *"Electra 12," Smith-Corona Marchant, Inc., Syracuse, N.Y.*



SAFEST SYSTEM: A new electrical distribution system is said to offer total safety, since built-in guards make it impossible to touch a live part anywhere. The bus bar enclosures are covered by safety slides that can't be opened until the plug-in unit is installed on the busway. Interlocks prevent removal of the plug-in unit while the safety slide is opened. The lock on the door of the plug-in unit also controls the stabs that make contact

WHY DID THIS ARMCO STEEL BUILDING WIN HIGH PRAISE FROM THE SERRICK CORPORATION?

BECAUSE "No posts throughout floor area."
BECAUSE "Completion in . . . less than 120 days."
BECAUSE "Considerable saving in construction cost."

That's the report from officials of Cullman Products Division of The Serrick Corporation of Muncie, Indiana. In something less than 120 days this modern steel building in Cullman, Alabama, was ready for business.

What made it possible? Armco's better way to build with precision-made steel parts that go together quickly to provide exactly the facilities you want—regardless of size. Simple, efficient panel-wall construction saves materials, time, and money. Also important, it blends with other construction materials inside and out. Regular insulation and interior finishing go in fast—where you want it.

If you are interested in today's most advanced methods in fast, economical construction, the coupon below will bring you complete facts about Armco Steel Buildings. Available with your Armco Building package are an efficient erection service and a finance plan.

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grand
to fish in . . .

wonderful
for boats . . .

but . . .

for some industries
WATER, pure and plentiful, is the essential ingredient for making money.

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☐ Yes, our plant needs water for a profitable operation. Send full details on water in Southern New Jersey.
☐ Send latest site-map.

Name _____

Company _____

Address _____

with the bus bars; when the door is unlocked, the circuit is automatically broken. *"Uni-Bus Masterguard," Electric Distribution Products, Inc., subsidiary of Worthington Corp., 2200 31st St. S.W., Allentown, Pa.*

•

CHEAPER TUBING: Designed to replace more expensive seamless tubing in heat exchanger use, a new line of electric resistance welded steel tubing is said to offer savings ranging above 30 per cent. *"Lectrosonic," Babcock & Wilcox, 161 East 42nd St., New York 17.*

•

PROTECTIVE COVERING: Rubber sheeting used as a covering for chutes and hoppers is claimed to stand up against abrasion ten times longer than steel, since abrasive particles bounce along the lining. The back of the sheeting is coated with tacky rubber, making application to chutes or hoppers speedy and easy. *"Armorline," B. F. Goodrich Company, 800 Second Ave., New York 17.*

•

THICKENER: A nonionic cellulosic chemical that is a water-soluble stabilizer and thickener has suggested applications in water-based paints, inks, or any liquid needing thickening. Available in four viscosity types. *"Natrosol 250," Hercules Powder Company, Wilmington 99, Del.*

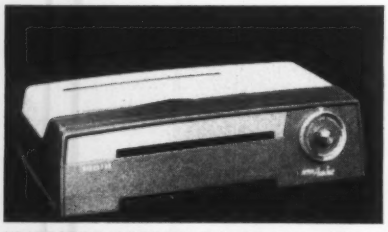
—R.P.

New Copying Machines and Supplies

MANY FROM ONE: In the past few months, several photocopy machine manufacturers have introduced units to speed the making of multiple copies. Still available as separate units, most new machines incorporate the multiple-copy process. Some representative machines are shown. The Copease uses a new Agfa negative paper that gives two positive copies from a single negative, while the Cormac reproduces an infinite number of positives from the first negative. The other machines have special processes that require only a single copying sheet.

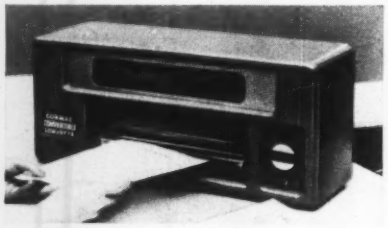
PAPER: Another direct positive paper is now offered by Photostat Corp., Rochester, N.Y. The paper, which comes in rolls, has a double layer emulsion that requires no separate negative. Conversion in the field will permit the Photostat #4 and #2 Continuous Process Pin Bar machines to be used with the new paper.

For its "Thermofax" line of heat-transfer copying machines, Minnesota Mining & Manufacturing Company, 900 Bush St., St. Paul 6, Minn., now offers a heavy-weight "bond" paper, Type 30, that resists tearing and rough handling.

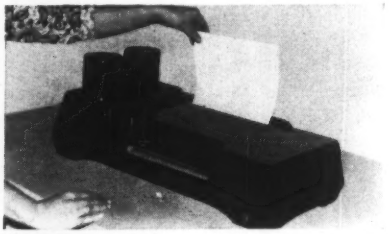


"DIRECTOR AUTOSTAT," *American Photocopy Equipment Corp., Evanston, Ill.*

"DUPLEX," *Copease Corp., 425 Park Ave., New York 22.*



"CONVERTIBLE CORVETTE," *Cormac Photocopy Corp., 80 Fifth Ave., New York 11.*



"QUICK SILVER," *Peerless Photo Products, Inc., Shoreham, N.Y.*

Advertising Index

Acme Visible Records, Inc. 85
E. H. Brown Advertising Agency
Alexander Hamilton Institute 9
Wunderman, Ricotta & Kline, Inc.
Alim Corporation 155
Ralph D. Gardner Advertising
Allen, Alva, Industries 174
Cooper Advertising Agency
All-Steel Equipment, Inc. 100
Marsteller, Rickard, Gebhardt & Reed, Inc.
American & Foreign Power Company, Inc. 141
Godwin Advertising Agency
American Automatic Typewriter Company 97
Frank C. Nahser, Inc.
American Credit Indemnity Company 158
VanSant, Dugdale & Co., Inc.
American Geloso Electronics, Inc. 74
Byrde, Richard & Pound
American Photocopy Equipment Company 79, 80, 81
Irving J. Rosenbloom & Associates, Inc.
American Telephone & Telegraph Co ..... Cover III
N. W. Ayer & Son, Inc.
American Warehousemen's Association 151
Matson, Marquette & Soash, Inc.
Amplex Mfg. Co. 122
Lee Keeler, Inc.
Answer America, Inc. 92
Nemer Advertising Agency, Inc.
Armco Drainage & Metal Products, Inc. 171
N. W. Ayer & Son, Inc.
Automatic Electric Company 130
Kudner Agency, Inc.
Avis, Inc. 25
McCann-Erickson, Inc.

Baltimore & Ohio Railroad 6
The Richard A. Foley Advertising Agency, Inc.
Baltimore Business Forms Co. 108
Van Sant, Dugdale & Co., Inc.
Baltimore Gas and Electric Company 159
Speed & Company, Inc.
Barber-Colman Company 20–21
Howard H. Mink & Associates, Inc.
Big Joe Manufacturing Company 23
E. H. Brown Advertising Agency
Bohn Duplicator Company 122
Smith/Greenland Co.
Borroughs Manufacturing Company, Subsidiary, American Metal Products Company 137
Roland G. Spedden Advertising Agency
Brooks & Perkins, Inc. 162
Clark & Bobertz, Inc.
Bunn, B. H., Co. 10
Robertson, Buckley & Gotsch, Inc.
Burns, William J., International Detective Agency, Inc., The 38
Fletcher Richards, Calkins & Holden, Inc.
Burroughs Corporation 99
Campbell-Ewald Company
Business Stimulators, Inc. 13
Stanley L. Cahn Co.
Butler Manufacturing Company 40
Aubrey, Finlay, Marley & Hodgson, Inc.

Cabana Pools, Inc. 92
Harbert Associates
Cambridge Wire Cloth Company 37
Emery Advertising Corporation
Chase Manhattan Bank, The 33
Albert Frank-Guenther Law, Inc.
Chesapeake and Ohio Railway ..... Cover II
Robert Conahay, Inc.
Chicago Express, Inc. 145
Cole Steel Equipment Co. 107
Daniel & Charles, Inc.
Commercial Credit Corporation 8
VanSant, Dugdale & Co., Inc.
Comptometer Corporation 102
MacFarland, Aveyard & Company
Convoy, Inc. 106
Rex Farrall, Inc.
Copease Corporation 106
Anderson & Cairns, Inc.
Cutler-Hammer, Inc. 2
Kirkgasser-Drew

Dictaphone Corporation 69
Young & Rubicam, Inc.
Ditto, Inc. 105
Fulton, Morrissey Company
Duo-Fast 166
Robertson, Buckley & Gotsch, Inc.

Eastern Express, Inc. 165
Kuttner & Kuttner, Inc.
Eastman Kodak Company (Verifax) 90–91
J. Walter Thompson Company
Eberhard Faber Pencil Company 116
Anderson & Cairns, Inc.
Executone, Inc. 26
The Joseph Katz Company

Farquhar, A. B., Division, The Oliver Corporation 39
Foltz-Wessinger, Inc.
Fastener Corporation 166
Robertson, Buckley & Gotsch, Inc.

Garrett Corporation, The 146
J. Walter Thompson Company
Globe Hoist Company 35
The Eldridge Company
Globe-Wernicke Co., The 70
Strauchen & McKim
Graphic Systems 106
Diener & Dorskind, Inc.

Hamilton Cosco, Inc. 82
Caldwell, Larkin & Sidener-Van Riper, Inc.
Heller, Walter E., & Company 27
Gourfain-Loeff, Inc.
Hertz Corporation, The 41
Needham, Louis and Brorby, Inc.
Heyer Corporation, The 133
The Biddle Company
Hill, R. O. H., Inc. 98
The Buckley Organization
Hy-Test Safety Shoes, Division of International Shoe Company 15
Jos. E. Schmitt and Associates, Inc.

International Nickel Company, Inc., The 156
Marschalk and Pratt, Division of McCann-Erickson, Inc.
Iowa Development Commission 144
The L. W. Ramsey Advertising Agency

Kelley Company, Inc., The 139
Maercklein Advertising
Kellogg Switchboard & Supply Co. 120–121
Lennen & Newell, Inc.
Kidder, Peabody & Co. 36
Doremus & Company
Kinnear Manufacturing Company, The 140
Wheeler, Kight & Gainey, Inc.
Kleinschmidt Division of Smith-Corona Marchant, Inc. 125
Alex T. Franz, Inc.

Lathem Time Recorder Co. 124
Adams-Allison Company, Division, Burke Dowling Adams, Inc.
Le Febure Corporation 75
Warren & Litzenberger
Leopold Company, The 110–111
The Biddle Company
Long Beach, Calif., Chamber of Commerce 169
Curtis, Sarver & Witzerman, Inc.

Magline, Inc. 154, 161
Rossi and Company
Manifold Supplies Co. 92
Williams Advertising Agency, Inc.
Marchant Calculators Division of Smith-Corona Marchant, Inc. 77
Foote, Cone & Belding
Masonite Corporation 28–29
The Buchen Company
McGraw Edison Company, Voicewriter Division 95
J. Walter Thompson Company
Micromatic Hone Corporation 142–143
Gray & Kilgore, Inc.
Minnesota Mining & Manufacturing Company 72, 109
Erwin Wasey, Ruthrauff & Ryan, Inc.
Moore Business Forms 64
N. W. Ayer & Son, Inc.
Morris, Bert M., Co. 135
Gumpertz, Bentley & Dolan
Mosler Safe Company 84, 123
Cunningham & Walsh, Inc.
Muzak Corporation 7
Schwab, Beatty & Porter, Inc.

National Business Show 83
Carpenter-Proctor, Inc.
National Truck Leasing System 155
W. S. Kirkland
National Vulcanized Fibre Company 150
Harris D. McKinney, Inc.
Newsweek 16, 17, 18
Maxwell Sackheim & Co., Inc.
New York Central System 34
Robert Conahay, Inc.
Niagara Therapy Mfg. Corp. 129
George L. Mallis, Inc.
Norfolk & Western Railway 12
Houck & Company, Inc.
North American Philips Co., Inc. 131
Sam Groden, Inc.

Office Products, Inc. 122
Sales and Merchandising Counsellors
Old Town Corporation 98
LaPorte & Austin, Inc.
Olivetti Corporation of America 88
Geyer, Morey, Madden & Ballard, Inc.
Olympia Division, Inter-Continental Trading Corp. 117
Mann-Ellis, Inc.
Olympic Luggage Corp. 134
George L. Mallis, Inc.
Oxford Filing Supply Co., Inc. 76
Kelly, Nason, Inc.
Ozalid Division, General Aniline & Film Corp. 119
Benton & Bowles, Inc.

Peerless Photo Products, Inc. 86
John Mather Lupton Company, Inc.
Photorapid Corporation 96
Wade Advertising, Inc.
Pinkerton's National Detective Agency, Inc. 163
Gray & Rogers
Pitney-Bowes, Inc. 67
L. E. McGivena & Co., Inc.
Planet Corporation 24
Jepson-Murray Advertising
Port Huron Sulphite & Paper Co. 89
Chandler's

Raymond Corporation, The 160
Taylor M. Ward, Inc.
Recordak Corporation, Subsidiary of Eastman Kodak Company 61
J. Walter Thompson Company
Remington Rand Division, Sperry Rand Corporation 73
Gardner Advertising Company, Inc.
Revolvator Company, The 168
Fredricks & Company, Inc.
Rock Island Lines 149
Aubrey, Finlay, Marley & Hodgson, Inc.
Royal McBee Corporation 115
C. J. LaRoche and Company, Inc.
Ryerson, Joseph T., & Son, Inc. 4
The Buchen Company

Shaw-Walker Company, The 87
J. Walter Thompson Company
Southern New Jersey Development Council 172
The Cowan Advertising Agency
Steelcase, Inc. 93
Aves, Shaw & Ring, Inc.
Sten-C-Labl, Inc. 71
Gibson-Erlander, Inc.

Technical Service, Inc 103
Holden, Chapin, LaRue, Inc.
Tel-A-Story, Inc. 92
Warren & Litzenberger
Temprite Products Corp. 68
Watkins-Rogers, Inc.
Texaco, Inc. ..... Cover IV
G. M. Basford Company
Texas Power and Light Company 157
Don L. Baxter, Inc.
Time, Inc. 138
Young & Rubicam, Inc.
Toronto-Dominion Bank, The 164
Albert Frank-Guenther Law, Inc.

Union Steel Products Co. 148
Rumsey & Associates
United Air Lines 22
N. W. Ayer & Son, Inc.
United States Steel Corporation 30–31
Batten, Barton, Durstine & Osborn, Inc.

Virginia Department of Conservation and Economic Development 32
Houck and Company, Inc.

Wagner Electric Corporation 144
Arthur R. Mogge, Inc.
Western Electric Company 127
Cunningham & Walsh, Inc.
Western Pacific Railroad 152–153
Honig-Cooper, Harrington & Miner
Western Union Telegraph Co., The 62–63
Benton & Bowles, Inc.
Wirebound Box Manufacturers Assn. 14
Robertson, Buckley & Gotsch, Inc.

Yoder Company, The 161
G. M. Basford Company

Zeolux Corp. 174
DePerri Advertising, Inc.

Other DUN & BRADSTREET *publications:*

MILLION DOLLAR DIRECTORY

METALWORKING DIRECTORY

INTERNATIONAL TRADE REVIEW

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The Reviewing Stand

Splinters versus Planks

There will be a rising crescendo of political oratory on the airwaves as we approach the Presidential election year. There is also increasing evidence that business men are a little less shy about engaging in political discussions, a little less coy about indicating a preference for party planks which affect the national welfare—and, perhaps, a little less selective of issues affecting only their personal business ventures. All of which leads into the current debate of the right of splinter parties to "equal time" on radio and TV news programs.

Splinter groups have rights, but their primary function is to make a smug majority suddenly cry "ouch" when it is caught ignoring basic truths or covering up inequities. All the splinters put together won't make a solid political plank in the ship of state. Splinter parties in Europe, especially France, have weakened the structure of government. In the United States, further extension of the equal time principle in response to demands by party cast-offs, lone-wolf opportunists, and political mavericks could make a farce of political liberty and turn a public forum into a babel of special pleaders. The right of free speech doesn't include unlimited access to mass-communication facilities.

If any political group—right, left, or contentedly center—wants an audience, it is free to pay for the time and be properly identified. More, any recognized political party is legally entitled to equal time on straight political programs carried free of charge by a broadcaster. But no group with views slanted to any wide angle of the political or social compass is entitled to preempt the function of those whose responsibility it is to keep the public informed. What is presented on a news or public service program should be left to the discretion of the editor. When leaders of splinter parties warrant attention, they get it—for all the news it is worth.

Giving Nature a Hand

Nature, though prodigal and seemingly wasteful, tends toward a long-term economy in her evolutionary movements. Mark Twain tells us the Mississippi shortened its course by 242 miles in the space of 176 years by cutting across the serpentine bends, much to the dismay of farmers with riparian rights and the confusion of mapmakers and pilots.

Changing ocean levels have provided us with vast oil deposits; shifting poles have converted tropic forests into coal beds; changing temperatures have sent glaciers forward and backward, grinding mountains into gravel and making plains and plateaus for the farmer.

But man doesn't always wait for nature to complete improvements or remove obstacles. The Suez, the Panama, and now the St. Lawrence ship canals have cut off thousands of miles from international sea lanes, and now an undersea channel beneath the Arctic is in prospect.

In these days of interplanetary exploration, it is well to remember that man, under the incentive of commerce and world trade, still conceives and achieves many wonders within terrestrial limitations. The business of living is still pretty much concerned with the earth and its resources.

Executives and Eggheads

At the several business-educational conferences and seminars which the Editor has attended, he has been impressed by certain anomalies, to wit: The college presidents are young men with a financial vocabulary worthy of the director of a mutual fund. They are men of genuine culture, who are also skilled in cultivating the foundations. The business executives are as shy and deferential as Mr. Chips but lack his sense of humor. They are humanists, essentially more interested in the broader values of education than in the narrower specialties of the world of science. The few labor union men attending are the most eloquent in their doctrinaire position and most pleasantly combative in the discussion of social values.

Actually, it is pretty difficult to type the delegates without looking at the name on the badge. The so-called barriers between business and education are illusions. You can't tell the Ph.D.'s from the VIP's by their neckties, beards, or the angle of their mortar boards. —A.M.S.

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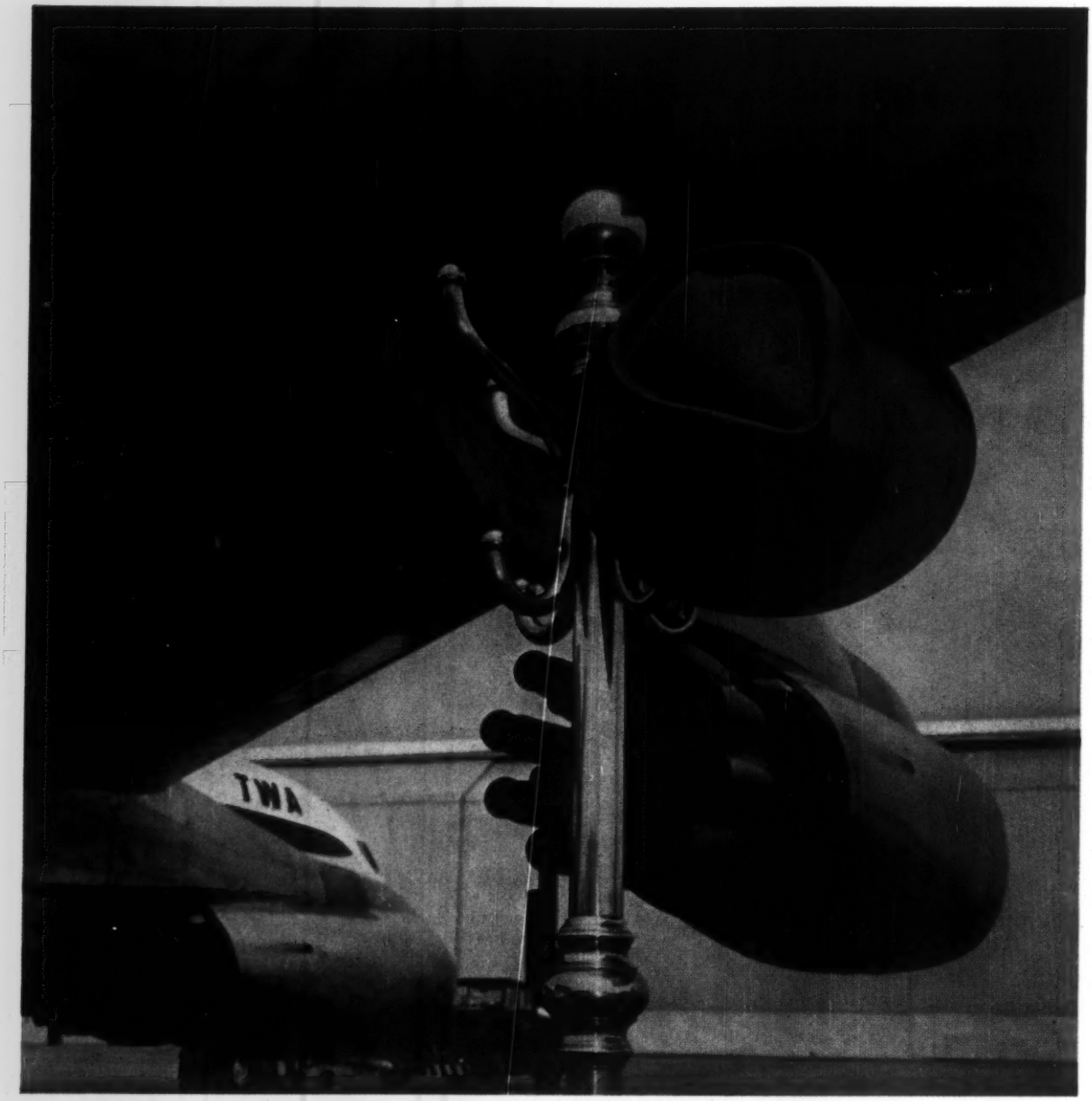

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